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THE PATIO

# The Mission Inn at Riverside, California

*By* DWIGHT JAMES BAUM, B.A.:A.I.A.
Photographed Chiefly by the Writer

AN American gentleman was touring Spain just before the great war and in searching for art objects, frequented the inland towns. In one of these he met a recognized authority on Spanish art and craftsmanship. Their conversation turned to ironwork and the American, of course, praised the craftsmen of the past and the wonderful artistry shown in metals. Finally the Spaniard suggested that the American take a trip to California where there was an Inn with a collection larger than any in Spain. The comment was received with much pride by the visitor, for he happened to be Mr. Frank Miller, Master of the Mission Inn at Riverside, California, and the owner of the collection referred to.

The writer recently spent a few weeks at this most interesting place, created all out of the mind of Mr. Miller who started this work in a small adobe which now serves as a tea room in the entrance court.

The structure with its several annexes now covers an entire square of no mean proportions, the buildings being grouped around an entrance court and a patio. The main buildings (2) were designed by Arthur Benton of Los Angeles and



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this portion includes the grouping around the forecourt and the music room. The wing (3) called the cloister and the Patio was designed by Myron Hunt of Los Angeles and this includes the new art gallery. The fountain (4) in the Patio was designed by Elmer Grey of Los Angeles.

A CORNER IN THE PATIO.

The exterior elevations are designed from motifs seen on four of the missions in Southern California, the entrance front is graced by an arched arcade between the curb and sidewalks which is shaded by some wonderful live oaks and covered with ivy and the most luxuriant semi-tropical foliage.

The left side is most effective with its heavy buttresses partly covered with foliage, the balconies of iron and the window grilles, some of the fine examples of Spanish iron work referred to above.

These graceful screens, doors and rails have taken on by age a greenish tinge to the usual wrought iron color and set as they are in openings of rough cream colored concrete and stucco and partly covered with moss and ivy, puts one in mind of a jewel in a rich setting. For grace of proportions and delicacy of the detail, this Spanish iron-work, it is claimed, has never been surpassed.

Probably the most interesting part of the Inn is the Patio. It is hard to imagine a more interesting place in which to spend one's time sitting on one of the various balconies. The simple lines, frank use of materials and colors introduced in tiles, canopy and striped sun shade above, present a unique architectural setting and one worth traveling a long distance to see. The fountain designed by Elmer

THE GALLERY OF SPANISH ART — MYRON HUNT, *ARCHITECT*

THE PATIO

MYRON HUNT & ELMER GREY, *ARCHITECTS*

Grey is a most effective point of interest both to color and design. The Spanish influence is again recalled combined with Indian modeling as seen in the Aztec temples.

AT one end of the Patio there is a gallery called the "Court of Bells" where is assembled probably the largest collection of bells to be seen at one place. This terrace has various features that makes it interesting in itself. These include unusual wood grilles over various window, tile inserts in the walls, a wall fountain of Moorish design, low walls with arched openings and capping of hand made Spanish tiles in reds and browns.

The upper balconies are very effective framed against the sky with striped awnings of red and yellow, tile roofs and a quaint corner treatment which has for its point of interest a large clock with carved frame and face of wood. The finest suites of rooms open from the top terrace and all have shuttered doors and screens formed by splitting small balusters in two and tacking on each side of netting making both a practical and artistic door.

GLIMPSE FROM THE BALCONY, SHOWING ORIGINAL BRACKETS FROM SEVILLE

Most interesting vistas can be obtained from these balconies, but probably the most effective one shows some very graceful ironwork as well as the bracketed cornice from La Granada at Seville, a fine example of carved woodwork. These brackets were worm eaten and the Spaniards did not



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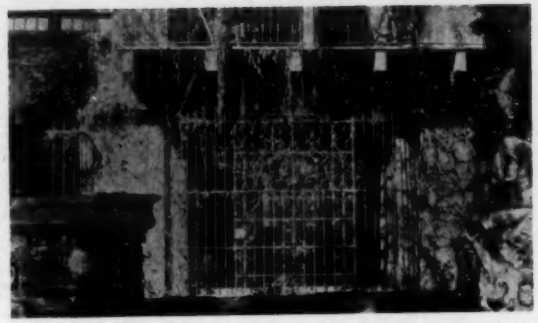
THE GREAT HALL, OR CHAPEL

ARTHUR BENTON, *ARCHITECT*



OLD SPANISH IRONWORK

THE MISSION INN, RIVERSIDE, CALIFORNIA

SHOWING BUTTRESS TREATMENT ON SIDEWALK

ARCADE ALONG STREET FRONT
ARTHUR BENTON, *ARCHITECT*

DETAIL OF TERRACE WALL IN COURT OF THE BELLS

THE MISSION INN
RIVERSIDE, CALIFORNIA

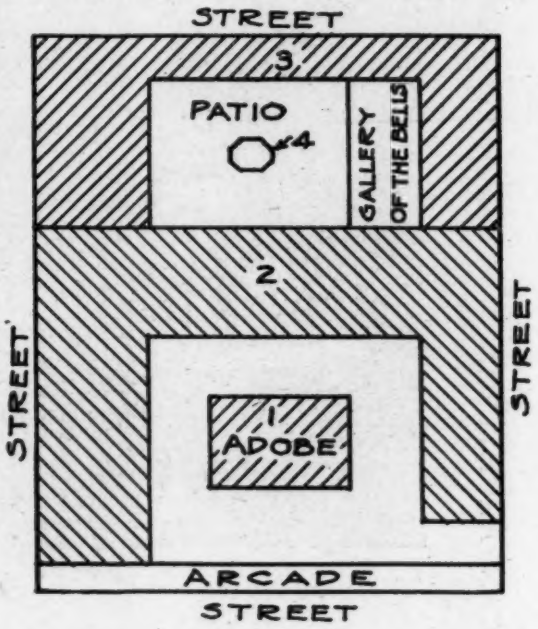
IN THE COURT OF THE BELLS

know how to save them so had them replaced. Mr. Miller's representative bought them and American ingenuity saved them from being destroyed.

There are several very interesting interiors, the most unusual being the underground cloisters with their various arches and niches filled with paintings of the old monasteries, figures of monks and in some cases alcove rooms filled with interesting architectural and decorative objects.

The guest hall as designed by Mr. Arthur Benton is a room of considerable size that is used for lounging and concerts. Choir stalls on two sides and also on two balconies give plenty of seating space and serve to add to the old world appearance and attractiveness.

One of the most interesting parts of the entire structure is the Spanish art gallery designed by Mr. Myron Hunt. The most unusual proportions of the room are handled very successfully, the simple wall spaces are effectively broken up with a few features only allowing the old Spanish portraits to serve as integral parts of the entire scheme. The hanging ceiling of gold was partly caused by necessity. Not having an appropriation large enough to do what he originally desired, Mr. Hunt took large pieces of burlap which he held in place




GROUND PLAN

by rope. Then an air gun was used spraying the entire surface with gold bronze. The ends of the rope were unwoven making large tassels. This different ceiling serves as well as many other features around the building to give pleasure to the many tourists from all over the world who are constantly filling this most unusual Inn.

COURT OF THE BELLS

DETAIL OF FOUNTAIN IN PATIO
MISSION INN, RIVERSIDE, CALIFORNIA
ELMER GREY, *ARCHITECT*



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# Notes from London

## The Proposed Restoration of Westminster Abbey

*By Special Correspondent of* THE AMERICAN ARCHITECT

A STRONG appeal has been issued from the Dean of Westminster for public support toward the urgently needed repairs of that priceless heritage of our race, Westminster Abbey. During the recent war the venerable pile certainly ran very great danger: as far as possible monuments in the interior—such as Edward the Confessor's shrine, the tomb of Henry III, the great builder of this Abbey, and that richly sculptured of Henry VII, were protected by sandbags, but the grand old building itself had to take its chance of bombs from the Zeppelins with which we Londoners were then being molested. I never passed the old Abbey in those anxious days without a feeling of thankfulness that it had so far escaped, and a prayer that it might be still preserved to us uninjured.

HENRY VII'S CHAPEL, WESTMINSTER ABBEY

It has escaped safely the dangers from the enemy, but is now faced with the no less serious risks of internal decay. "We are now," writes the Dean, "faced with a desperate state of things. The sum of money which more than fifty years ago was fixed for the maintenance of the fabric and services of the Abbey has become utterly inadequate for those purposes. The immense rise in the cost of materials and in the wages of the staff, together with the greatly increased standard of efficiency demanded from every branch of service to Church and nation, have brought us to the verge of bankruptcy. It has been even necessary, while fabric repairs have been unavoidably postponed, to divert to the absolutely essential duty of keeping up the services and worship of the Abbey the inadequate sum of money which had been 'earmarked' for keeping the fabric in repair. We are no longer able to pay our way."

At the same time there is urgent need for:

(1) The repair to a condition of safety of the two great western towers.

(2) The reparation of the external stonework of Henry VII's Chapel.

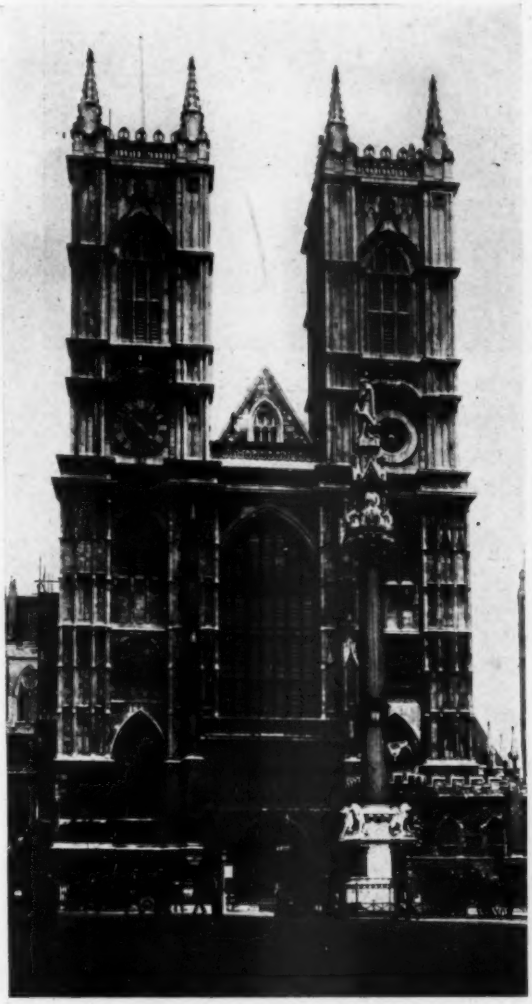
(3) The renovation of a large portion of the parapet running round the roof.

(4) The repair of clerestories and flying buttresses.

There is besides a continual large outlay required by the maintenance in proper repair of much the decayed Cloisters and the ancient dwellings which, at the present scale of prices cannot be kept in suitable structural repair at the private cost of the officials who are their temporary occupants.

Bishop Ryle goes on to point out that it is impossible to meet this deficit by the funds at the disposal of the Ecclesiastical Commissioners, as those

funds are required for poor incumbents and curates, and are not permitted by Parliament to be used otherwise. "But," he continues, "the Abbey must not be allowed to suffer. The English-speaking peoples of the world glory in Westminster Abbey. They will not tolerate the thought that its structural condition should suffer from lack of adequate funds. They will expect me to take them into my confidence, as I now do. I know well after residence for over nine years in this place, I know well from the extraordinary experiences in the Abbey during the years of the Great War, how dear is this church to the people of this country, to our brothers and sisters in Canada, Australia, New Zealand, South Africa and India, and in a peculiar degree to our brothers and sisters of the great Republic of America. I appeal to them. I ask for the sum of £250,000. Of this the sum of £100,000 is required for structural repairs in the immediate future. The remaining sum of £150,000 should constitute a fund by which the whole Abbey and any buildings of which the Dean and Chapter are custodians should in future time be kept in a constant condition of complete efficiency and repair, and be finally freed from the humiliating necessity of appeals being made now for this object and now for that."



THE TOWERS OF WESTMINSTER ABBEY

The learned Dean has not made his appeal in vain. The Abbey is something more to us than any other Church or Cathedral. It is the shrine of our race—the epitome of England's history Dating back to Edward the Confessor, and yet earlier to the first foundation of Sebert, it was added to and enlarged by Henry III., while it was Henry VII. who enriched it with that wonderful Chapel, a forest of fretted stone-work in which the keying of each separate part, the thrust and support of the piers is so admirably planned. In the days of the war Australians, Canadians, South Africans and Americans came streaming into the Abbey from the great military camps and felt, as we feel now, that the Abbey does not belong to the Church or to ourselves, it is the heritage for which we are trustees for our race, for all the English-speaking peoples.

Already, on Friday last, three days after the appeal had been made, more than £30,000 had been received, and the next day was expected to give £50,000 to the fund. There is good reason to hope that the amount required will be obtained, with enough over to purchase adjacent ground so that our Abbey may never be encroached upon, like St. Paul's, with crowding blocks of office structures.

At the meeting held this week at the Mansion House the question of "adoption" of devastated French towns was warmly supported by the Lord Mayor, Sir E. Cooper, the Earl of Denbigh. Viscount Burnham and other speakers. Already the lead in this movement has been taken by our Lancashire industrial centres, Manchester having adopted Meziéres and Liverpool become godmother of Attigny. It is to be hoped that the City of London will assume a similar relationship to the ancient and devastated city of Rheims.

My illustrations of Westminster Abbey include the towers, which from the point of view of Gothic design are perhaps less interesting than other portions of the structure, and that wonderful Chapel of Henry VII., whose stone roof, as Mr. Russell Sturgis remarks in his "Appreciation of Architecture," was "one worthy of the shrewdest and most daring builder of the time. The stone ribs," he adds, "which spring directly from the uprights



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with but the slightest pretense at vaulting shafts in little round mouldings with slightly marked capitals, are really the arches which carry the whole structure of the roof." The design marks the culmination of our beautiful English Gothic; no one can remain indifferent to its charm. S. B.

DESIGN SELECTED BY ATLANTA PARK COMMISSION
J. F. DOWNING, *ARCHITECT*

# The Battle of Atlanta

*By Special Correspondent of* THE AMERICAN ARCHITECT

THE Battle of Atlanta is still being fought. On those wooded slopes and open spaces where once the uproar of battle attended the infernal destruction of war, is now a public park dedicated to peace, happiness and public welfare. In Grant Park is to be placed a great portrayal of this battle in cycloramic form, a fine representation of a beautiful southern landscape with all the details of ruthless human combat. Properly to preserve and house this important record of an historical event, the park commissioners will erect a permanent structure.

A competition was recently held among the Atlanta architects with the understanding that the award would be based on the recommendations of the Atlanta Art Commission. The design by Edwards & Sayward was recommended by the art commission; the park commissioners, however, selected the design of J. F. Downing. These, with the designs by Burge, Stevens & Conklin, and A. Ten Eyck Brown, are now illustrated and described.

In addition to housing the painting of the battle, the building is intended to include a war museum, two famous war-time locomotives used in historical raids, public comfort stations, restaurant, service and attendants' quarters.

Of the four designs illustrated, three clearly indicate the main function of the structure as housing a cyclorama. The selected design rather subordinates this feature and places more emphasis on the museum and service features.

The design of Edwards & Sayward, which was recommended by the Atlanta Art Commission, indicates the purpose of the building interpreted in

the most simple and direct terms. The circular superstructure befits a cyclorama according to the necessities of the interior requirements. The exterior of the wall is divided into twenty vertical panels, at the top of each is placed the coat-of-arms of the Confederate State whose name is carved in the frieze immediately above the panel. The cornice is completed in a simple and well proportioned manner, the roof is of slight pitch and inconspicuous. The base or lower story is octagonal in plan, simple in detail and monumental in character. The design is dignified and imposing in its simplicity.

The design submitted by Burge, Stevens & Conklin is octagonal in plan throughout both stories. In this plan the cyclorama feature also dominates the design and the museum and service portion is subordinate. The base might appear more substantial under the large wall space above if the fenestration were differently arranged, a detail that could be perfected by further study. The cornice is simple and effective and makes a satisfactory combination with the colored tile roof. The main feature of this design is the large paneled surfaces of the upper story. The diaper pattern in subdued colors give the necessary effect of coherence in such large areas. The body of the panel constructed with carefully selected and graded texture surfaces of brick, or possibly marbles, would have a harmonious tonal effect of color that would make this a most beautiful structure. There are great possibilities in this type of design.

The design submitted by A. Ten Eyck Brown emphasizes the cyclorama feature as prominently as the others mentioned. The museum floor is subordinated to such an extent that it is hardly noticeable in the mass of the structure. It is, however, a very effective base. The roof and cornice are more prominently featured, the sculptured frieze being a conspicuous element of the design. The walls are variously paneled by the use of pilasters and are divided horizontally by a heavy belt course near the top. Perhaps some of the effectiveness of the general design is lost through the elaborateness of the details, but it is consistently worked out withal. The plan is especially interesting and well considered.

The design submitted by J. F. Downing, selected by the park commissioners, differs materially from the others. The building is considerably lower than the others illustrated. The floor of the cyclorama section is several feet lower than the general first floor level and this portion of the building is a decagon in plan, to three sides of which is connected the museum and service portion of the building. This portion of the building is rectangular in plan, the first story of which is devoted to the refreshment and comfort service, attendants and park board quarters. The locomotives previously mentioned will be stored in a basement under this portion of the building. The second story is devoted to museum purposes. The building is low as compared with the other designs submitted, and will not, due to this fact, be as imposing in appearance. The polygonal portion of the building is severely plain in design. The main features of the exterior design are confined to the front elevation, which is enriched by the sculptured panels in lieu of the second story windows. The loggia is two stories in height with Ionic columns and pilasters. The elevation is well proportioned and consistently detailed. The cornice extends entirely around the building at a uniform level.

All of the designs will adequately serve the purpose from the utilitarian standpoint. There is ground, however, for a difference of opinion as to which type of building will present the better architectural appearance in connection with the place and surroundings. It is said that this is the only building used for this specific purpose in this country, and as such it might be worthy of a distinctive appearance which would readily proclaim its use through its design. In any event, the battle, depicted in such a masterly manner, will continue to represent the scenes of mortal combat housed in a beautiful building erected on the ground on which the historic action took place.



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# Doorway of a House on Washington Square North, New York

*(See reproduction of the original drawings by O. R. Eggers in this issue)*

ONE of the most interesting periods of the architectural development of New York City is that called by architectural writers as of the Greek Revival. Men of large means and of much culture who located their homes in the then aristocratic Washington Square section, which included lower Fifth avenue, readily availed of the suggestion that their houses be designed after these classical and refined motives. The portico illustrated is of the house standing on the northwest corner of Fifth avenue and Washington Square North and is typical of the majority of the houses in its neighborhood. Mr. Eggers has with characteristic skill retained in his sketch all the beauty of proportion and classical adaptation of this entrance detail. Of the various well known architects that lived and worked during the early thirties, Robert Mills is on good authority believed to be the man who first designed in the style now known as "the Greek Revival." The late Montgomery Schuyler, in a series of articles contributed to The American Architect in 1910 expressed the conviction that it was largely through the examples of Robert Mills that this dignified method of architectural expression found favor not only in the domestic architecture of all of our then large cities, but was also plainly shown in all of the important work on which Mills was engaged.

Undoubtedly good architecture is influential in setting a good example wherever it is successfully grouped. In spite of the many vicissitudes through which the Washington Square section has passed, the northern boundary of the "Square" yet presents a quiet dignity, a staid respectability, even though its neighboring boundaries on the south and east and west have long since lost all architectural coherance. The well appointed phaeton with two liveried men on the box no longer waits in front of these houses. Where once the future aristrocrats played in the Square under the watchful eye of nurses and grooms, the "Villagers" congregate under the shadows of the Washington Arch or overspread the walks and lawns to listen to the music of the city band. And these stately old houses, closely shuttered, sit in all their isolation of a past splendor calmly awaiting the day when the wreckers for speculative building interests will fall upon them and raze them to the ground.

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# The American Lumber Industry

IT is estimated that the United States originally possessed 850,000,000 acres of timberland, of which only about 545,000,000 acres remain, says the National Bank of Commerce, in an analysis published in its monthly magazine. And yet, in spite of the methods of lumbering that have wasted so much of our original timber, the United States is still the third country of the world in respect to forest acreage, being led only by Russia and Canada. The remaining virgin stands, says this article, consist chiefly of various species of hardwoods in the central and southern hardwood regions, the yellow pine along the South Atlantic and Gulf coasts, and the Douglas fir, spruce and cedar of the far Northwest, with smaller stands of redwood, California sugar and white pine, western yellow pine and Idaho white pine in the inland empire region, white pine in northern Minnesota and Wisconsin and spruce in Maine. Lumber production in this country reached its peak in 1906 and 1907. Since then it has steadily declined.

One hundred years ago lumbering in the United States was confined to small sawmills on the coast and river courses of the East. Except for a small export trade the markets supplied were entirely local. As the Middle West became settled and railroad transportation developed, the center of lumber manufacture shifted to the region of the Great

*(Continued on page 213)*

DOORWAY, WASHINGTON SQUARE NORTH, NEW YORK
*THE AMERICAN ARCHITECT Series of Early American Architecture*

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# EDITORIAL

## Cass Gilbert Visits England

CASS GILBERT'S sojourn in London was marked by the most delightful manifestations of good will by members of the profession in that city and a very fine appreciation of his high position among his brother architects in this country. Mr. Gilbert's fine personality would naturally attract and suggest the sort of comment that marked his visit.

It will be gratifying to architects in this country to note among the many references in the English press, that there is also included a very unselfish expression of appreciation of the work of architects in the United States.

*The Architects' Journal* of London writes of Mr. Gilbert and of contemporaneous and earlier American architects as follows:

"No American architect enjoys a higher reputation among us than Mr. Cass Gilbert, and the British architects who have been able to meet him personally will always consider themselves very fortunate. Very possibly it may have been the bruit of the gigantic Woolworth building that first brought his name into prominence here among the general public; but among British architects it was well known that Mr. Gilbert was capable of higher things—we mean qualitatively. It was known that he is a man of parts, a scholar who had sketched the ancient monuments of Greece and Rome, and had turned his accomplishments to fine practical account as assistant to Stanford White. Cass Gilbert is not to be classed among those superb specialists who will not, or cannot, or by an exacting public are not, allowed to forsake the class of work in which they have achieved reputation. Nor is he the all-round man, the 'general practitioner' whose deversity tends to mediocrity. He is of the rare type of those who do all things well. In this respect he is a true scion of the great house of McKim, Mead and White, whose miscellaneousness was their most astounding quality. It takes a great man to be as various as Mr. Cass Gilbert has been—his work ranging from a monumental building to a humble cottage—and, on the quality as well as on the variety of work, it is not an abuse of words to say that Cass Gilbert is a great man, coming as near to genius as any architect that the Continent of America has yet produced, hardly excepting his great teachers, Charles Follen McKim and Stanford White. Concerning the Woolworth Building, the chief thing to take into account is not its gigantic size, but its embodiment of a very successful attempt to invest a skyscraper with architectural character."

## Wasting Our Water Power

THE complication as to the mining and distribution of coal, and the prediction of experts that we are drawing perilously near the limit of production of fuel oil, makes consideration of the development and conservation of the enormous water power available in the United States a question of first importance.

The Federal Water Power bill, recently enacted into a law, makes possible the development of this power in a way that it will become a national asset and not one controlled by private enterprises.

It is claimed that there is in the United States available for development between 20,000,000 and 30,000,000 horse-power of water power that is today wasted. The use of this enormous power, when finally harnessed, will effect a corresponding saving in coal consumption. It is estimated that this saving would amount to at least one-half of the present coal consumption.

## The Theatre vs. the Home

AMONG the different types of buildings projected all over the United States, it is significant that a very large number, representing a great amount of invested dollars is in theater buildings, principally of the moving picture type. It would seem to be indicated that it was more important that we Americans should be amused than properly housed. There are indications in this tendency to cater to our desire for amusement and ignore our needs for proper housing that we are becoming a frivolous and thoughtless people.

As a mass we are only the composite expression of the individual. And the individual, in spite of



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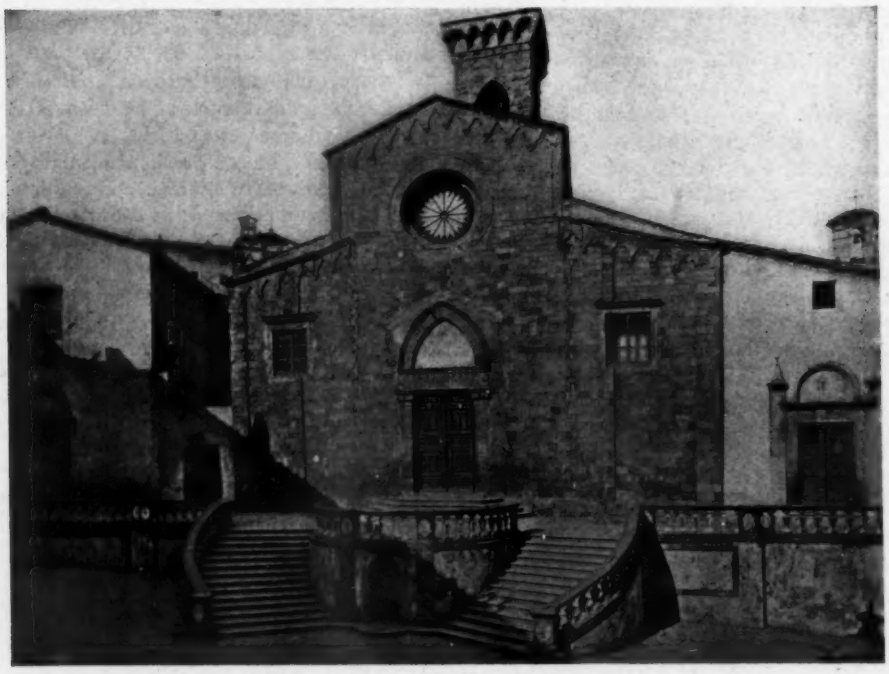
the many warnings that have been given, calmly decides to relinquish next October the apartment he now occupies and lazily postpones "until the weather is cooler" the search for shelter for himself and family. Meantime, he recreates himself with the movies. And those who cater to that form of amusement sense an increasing business and decide on new playhouses.

Taking, for example, the present condition in New York City, where it is estimated there is a shortage of 60,000 homes, we learn that a survey recently made of theater construction discloses that $25,000,000 worth of new amusement houses were underway. One may judge of the large profits that attend the amusement business, when at the present high cost of building it is considered "good business" to promote to so large an amount that type of building.

## Is Building an Essential Loan

IN the discussions as to what are the "essential" and what the "non-essential" loans referred to by the Federal Reserve Board stands the answer by Governor Harding of the Federal Reserve Board to a communication from Mr. M. Morganthau, Jr., of New York. The letter addressed to Governor Harding contended that there was no reason why the Federal Reserve banks should not make temporary loans as required by builders during the construction which would subsequently be financed with permanent loans from savings banks or similar institutions.

The reply from the head of the Federal Reserve Board said that there was never an intention to convey the impression that essential loans were confined to those relating to the production or distribution of "clothing, food and fuel." After saying that the various war boards had experienced much difficulty in defining essential and non-essential loans, Governor Harding declared that it would be practically impossible for the Federal Reserve Board to make any general ruling or country-wide applications and urged that such discrimination might be made at the source by the member banks themselves. He added that the Board "has consistently declined to express any opinion as to the essential or non-essential character of any particular loan." The point was made also that the Federal Reserve Act permits only loans by the Federal Reserve banks to member banks direct and never to individuals direct.



CHURCH OF SS. STEPHAN AND NICOLAS, PESCIA, ITALY

## The American Lumber Industry

(*Continued from page 212*)

Lakes. The famous white pine industry of the Lake states began about 1850 and did not decline until the end of the eighties. The industry differed from the former industry of the eastern coast in being organized and capitalized on a large scale. It catered principally to eastern and central markets.

As the white pine industry declined toward the end of the century, owing to the depletion of the virgin forest, the lumber market was diverted to pine from the southern states. In the eighties and early nineties, southern pine first extended itself beyond local consumption. Central, eastern and central markets of the United States now depend mainly on the southern forests for their lumber, but in the course of a few years the southern pine industry will return to local production on isolated bits of virgin timber and on second growth, as has already taken place in turn with the eastern forests.

The lumber industry of the Pacific Coast, which has come to be important since 1900, is the large scale American lumber industry of the future. Of the total available timber supply 54 per cent. is estimated to be in the Pacific Northwest. The territory from the Pacific Coast to the Missouri River and southward to western Kansas is now almost entirely dependent on west coast mills for its lumber supply. The tendency is to extend eastward and southward. However, for some time to come, southern yellow pine will predominate in central and eastern markets.

The United States is the largest wood-using country in the world. The great majority of dwellings and of farm buildings is made of wood. Of our total domestic consumption, more than half is accounted for by use for construction timber and lumber in the form of planing mill products Lumber consumption in the United States, however, has of late years shown a tendency to decrease.

The organization of the lumber industry comprises five successive functions, which are carried out in great diversity of combination by industrial units. These functions are the ownership or control of standing timber, logging, manufacturing of lumber, wholesale distribution and retail distribution. The most common industrial unit combines the first three functions, and often undertakes the distribution of its own lumber to the retailer, or even the ultimate consumer. The lumber manufacturer ordinarily owns his timber. There has been a recent tendency toward the consolidation of holdings in large tracts. Owing to the unwise policy of the Government parting with its timberlands, there has been, since 1870, a vast speculative purchase of timberland far in advance of any possible use of the timber. Hence it is generally recognized that the big profit in the Northwest and also to a great degree in the South has not been in lumber manufacturing, but in the increase in the value of timberlands.

There is great diversity in the size and character of the American lumber mills. There is every variety and style of sawmill from the little stationary plant with a sash saw worked by water power to the large plant, with its main and secondary kilns. The largest mills, those having an output of 10,000,000 feet or more per year, though they constitute only about 4 per cent. of the total number of mills, now produce about 60 per cent. of the country's lumber. The proportion, both of the largest size mill and of their cut to the total, has increased during the last ten years.

But the most striking characteristic of the American lumber industry has been its lack of cohesion. This has led to a maladjustment of lumber production to the requirements of its market. Though the industry is at the present time prosperous, it contains elements of instability. It has been dominated by a strong individualism and has been backward in developing common ideas about its products. Coordination has been made difficult by the fact that it is not economically feasible to assemble the raw material (timber) at a few points where manufacturing may be concentrated.

The principal handicap of the lumber industry as it exists in the Pacific Northwest, and also to a great degree in the South, is the burden of timberland investments. In the last quarter of the nineteenth century lavish grants of public lands and loose, poorly defined and ill enforced land laws allowed the concentration of timberlands in private ownership. A rapid and enormous capitalization of stumpage took place, largely with borrowed funds. The result of these conditions has been that the lumber cut has tended increasingly to be governed by the financial requirements instead of demands of the market. This movement to unload stumpage while the opportunity for profit exists is the most serious cause of overproduction in the West

Violent and destructive competition exists between different regions and between different mills in the same region. The lumber industry is equipped to produce at least 50 per cent. more lumber than it has so far in any year, and probably about twice the present consumption. There has been a lack of sensitive adjustment of supply and demand. Naturally this loose and haphazard structure of the industry has operated with the speculative character of timber ownership to produce violent fluctuations in output and prices.

The value of lumber has multiplied many times since the beginning of the war. In 1914 the average price of yellow pine shipments was about $14.50 per M. feet. In January, 1920, the price was about $55 per M. The lumber industry of the United States



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had to meet hitherto unknown conditions in 1919. The year started with stagnation and uncertainty. In the latter part of the spring the long expected building boom began to materialize and by summer there was a great demand for lumber of all sorts. Production, however, was hindered by unfavorable weather, by labor difficulties and by car shortage. It was a very prosperous year for the industry, but, on account of the handicaps mentioned, production was less than in previous years. It is now recognized that the present housing shortage will be taken care of not by a building boom but by quiet and gradual expansion of building operations. Mill stocks are low and output only fair—in some areas considerably below normal.

The annual timber growth of the country is about one-third of the annual cut. The opinion has been expressed in the lumber trade that it may be desirable ultimately to double the present acreage of the public forests, so that they would amount to from 40 to 50 per cent. of the total forest area. State and municipal forests might also be established and some depleted and wasted cutover and burned lands should be rehabilitated. Tax accumulations, the fire menace, the fact that timber takes generations to mature, all tend to discourage reforestration by private owners, who too often take a short-sighted view of their functions.

According to Henry S. Graves, formerly chief of the United States Forest Service, if we began at the present time to protect our cut-over lands from fire and used wholly practical forestry methods to insure reproduction after logging, we could secure, in the next fifty or sixty years, an annual production of over 60,000,000,000 feet of lumber per year without lessening our forest capital. The production in 1918 was about one-half that amount and means vast needs be found for its increase.

# Book Notes

There has just been published by the Chamber of Commerce of the Borough of Queens, New York, a 240-page publication of considerable interest, to architects, particularly metropolitan architects.

The book has as its object to reveal the manifold opportunities presented by this borough, for conducting vast industries and for housing great numbers of people.

To do this a history of the founding and subsequent growth of Queens Borough is included, and a very complete discussion of the assets of that section of Greater New York, as bearing upon its present remarkable development is fully set forth.

The volume is thoroughly illustrated with many pictures of the hundreds of industrial plants, and homes of various types, of new bridges and highways and other innumerable institutions that form part of a great city.

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THE AMERICAN ARCHITECT has frequently had occasion to comment on the small editions of various housing publications issued by the Government during the war. All of the more important industrial housing developments have been carefully illustrated in these pages, but it has remained for a collection to be made that would adequately provide the many architects interested with descriptions and illustrations of some of the larger undertakings.

There is now off the press "The Housing Book," which contains photographic illustrations with floor plans of workingmen's homes, one and two family houses of frame, brick, stucco and concrete construction, and also four, six and nine family apartment houses, showing single houses, blocks of houses, groups and developments that have been built in various parts of the United States. There are 150 illustrations and plans, 132 pages, 8½x11 inches, cloth bound. Wm. T. Comstock Co., New York, publisher.

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An analysis of the present financial and economic problem of supplying homes for workers. It discusses proper rents, the advantages of home owning, the guarantee of repurchase by the employer the financing of building undertakings by Loan Associations, Mortgage Finance Corporations, and Consolidated and Individual Realty Companies, methods of selling, and co-partnership housing. Village planning, types of houses and their essentials are also touched upon. The appendix contains many forms for use by employers in selling or renting to employes. (Apply to Fred T. Ley & Co., Inc., 50 Central Park West, New York City.)

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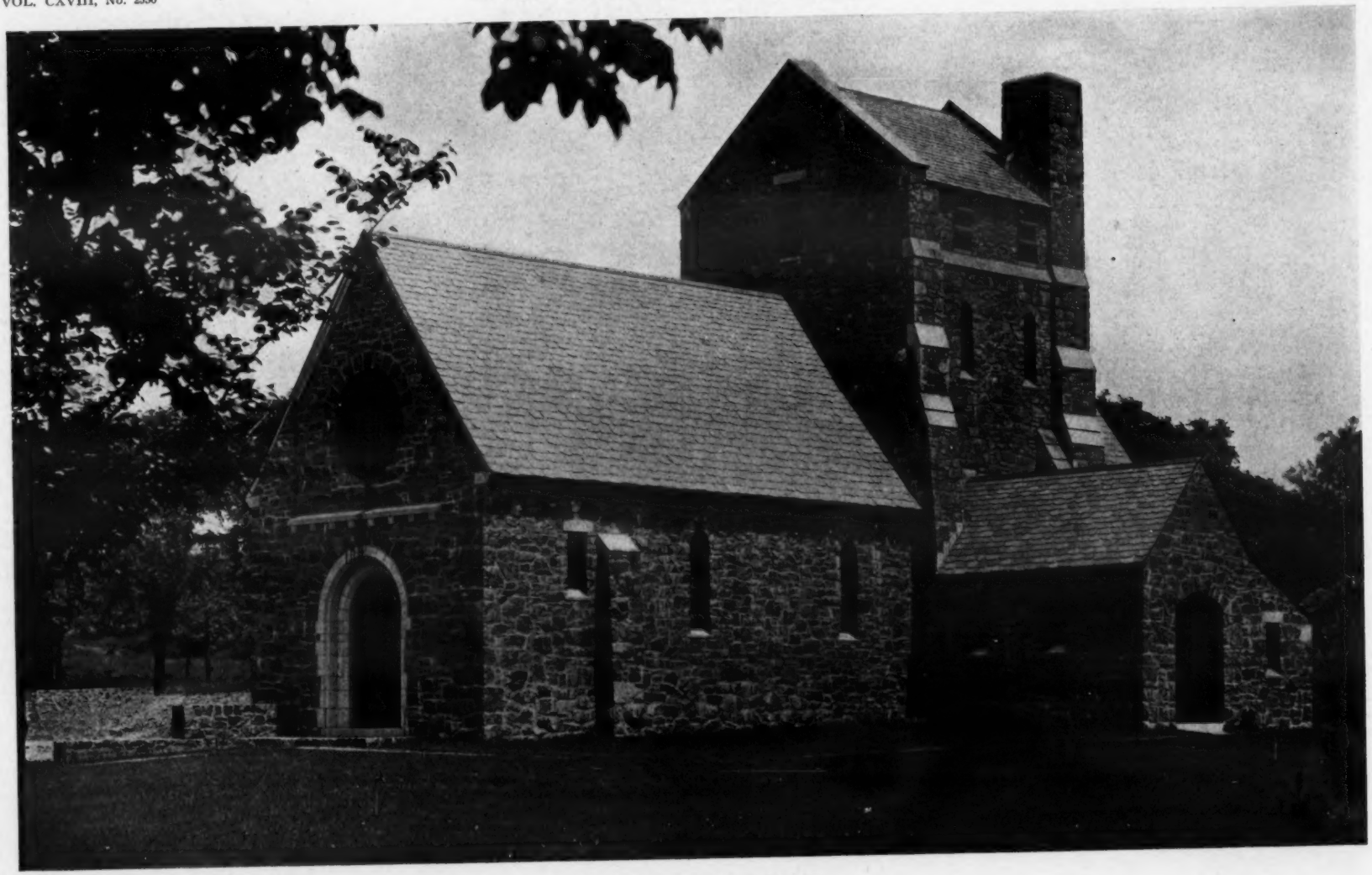
"Town Planning with Reference to Factory Development and the Distribution of Goods," by W. H. Gaunt, read at the March 5, 1920, meeting of the Town Planning Institute; "Town Planning Reports and the Graphic Representation of Statistics," by Major George B. Ford, read at the meeting of the Institute on April 6, 1920. Each with the discussion thereon. Quarto. (Published by the Town Planning Institute, 4, Arundel St., London, W. C. England.)

CHAPEL AT NAHANT, MASS.
RALPH ADAMS CRAW, *ARCHITECT*



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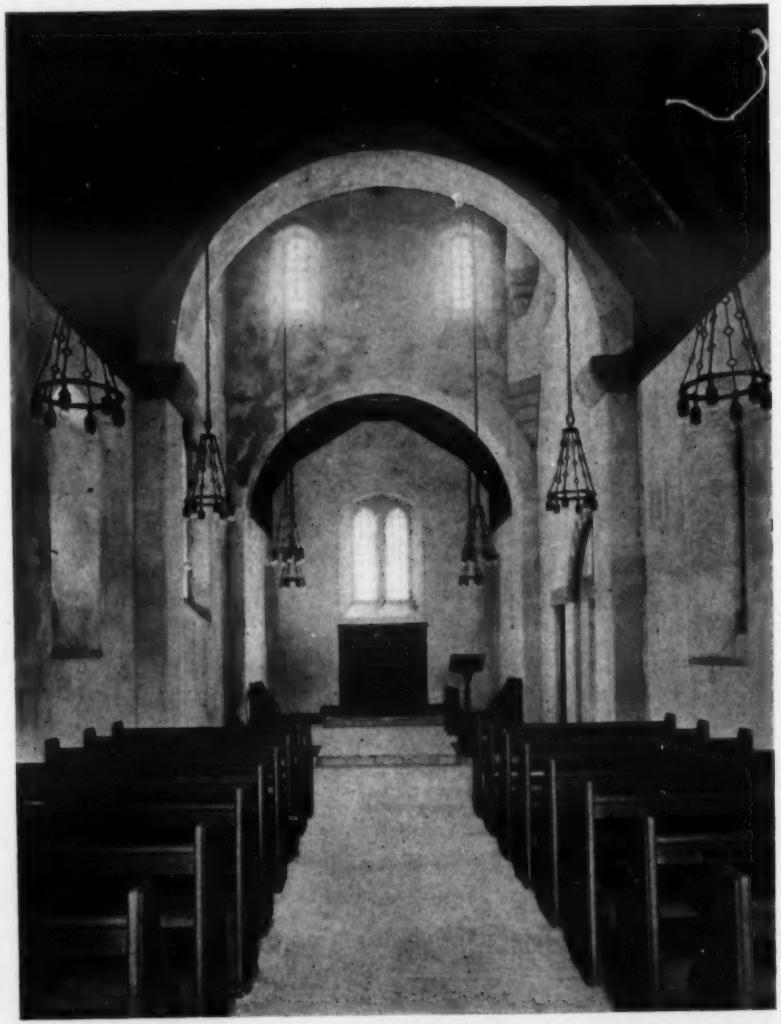

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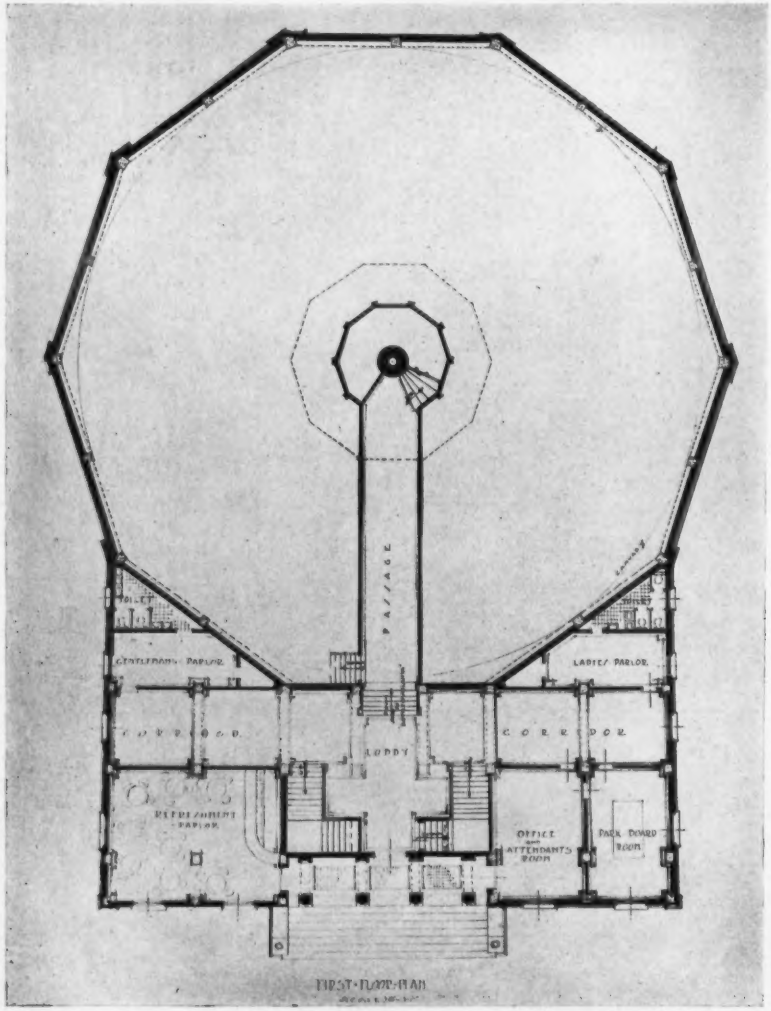
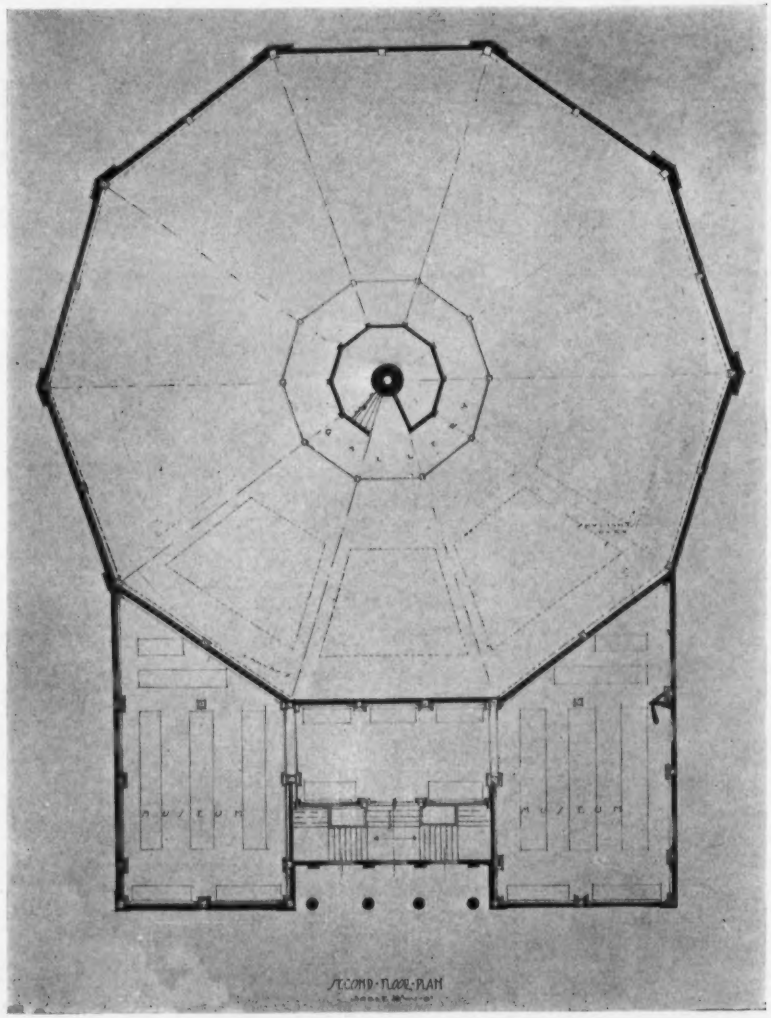
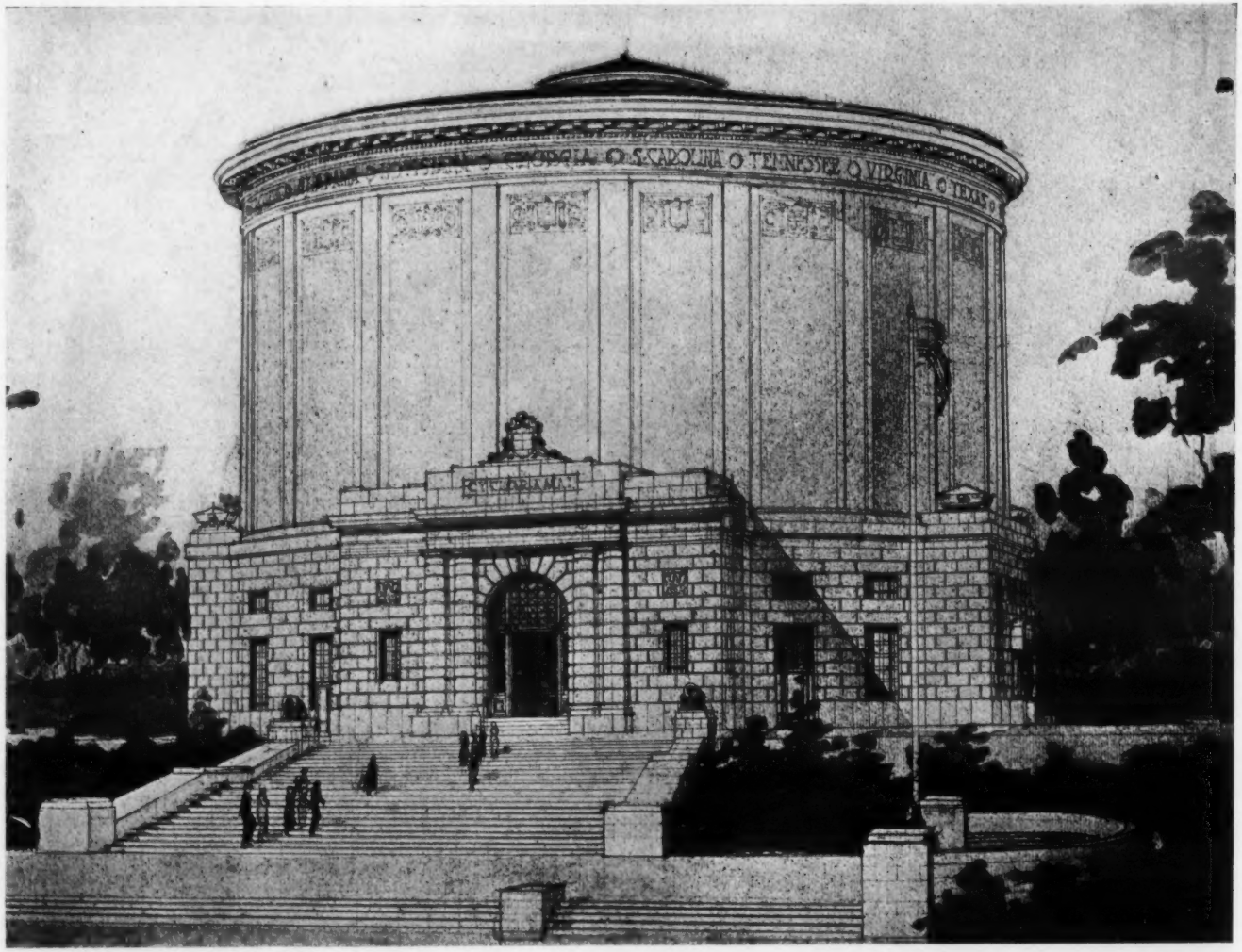
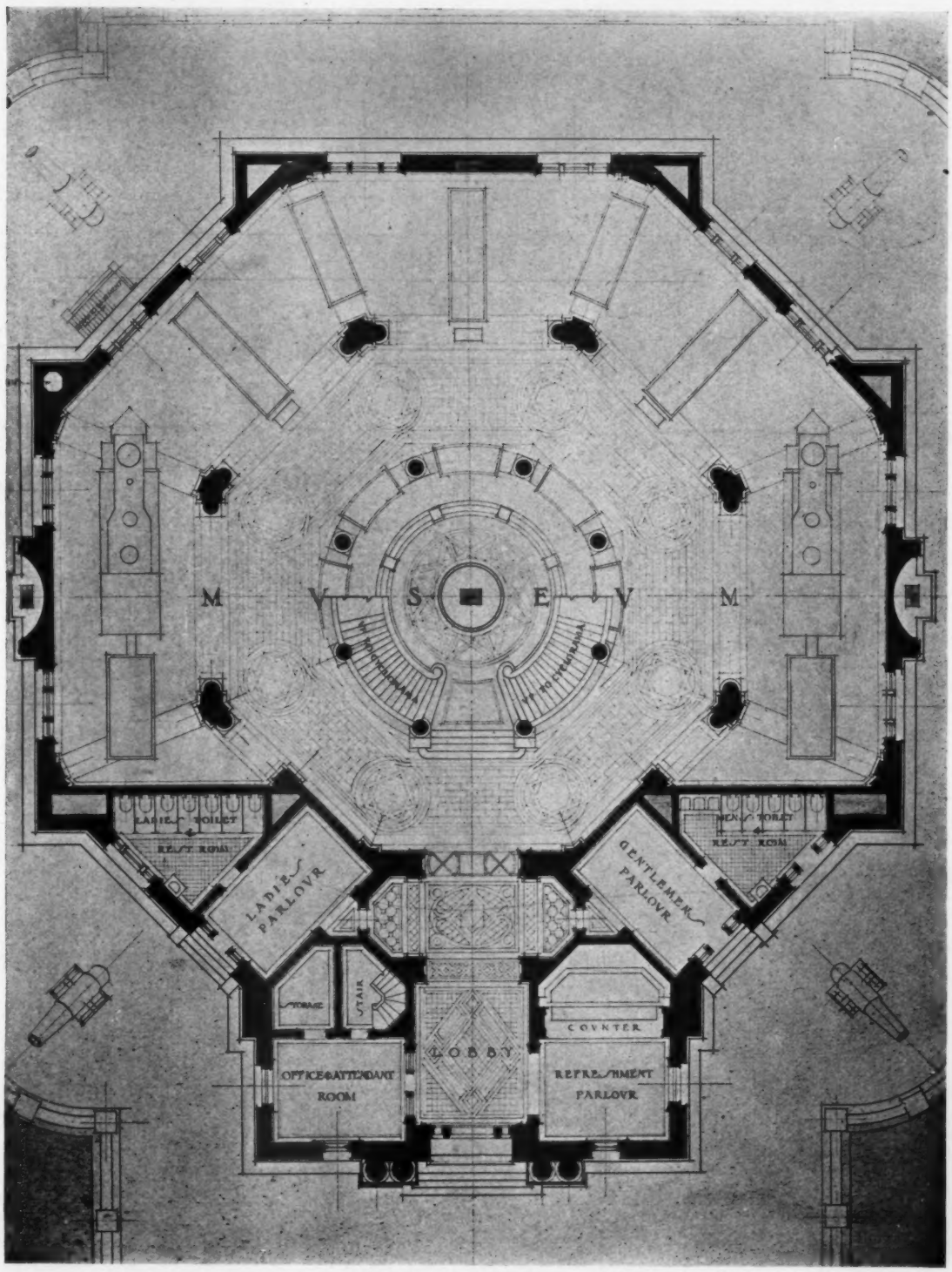



COMPETITION FOR A CYCLORAMA BUILDING AT ATLANTA, GA.
J. F. DOWNING, *ARCHITECT*
(Design selected by Atlanta Park Commission)




COMPETITION FOR A CYCLORAMA BUILDING AT ATLANTA, GA.
EDWARD & SAYWARD, *ARCHITECTS*
(Design recommended by Atlanta Art Commission)




COMPETITION FOR A CYCLORAMA BUILDING AT ATLANTA, GA.
EDWARD & SAYWARD, *ARCHITECTS*

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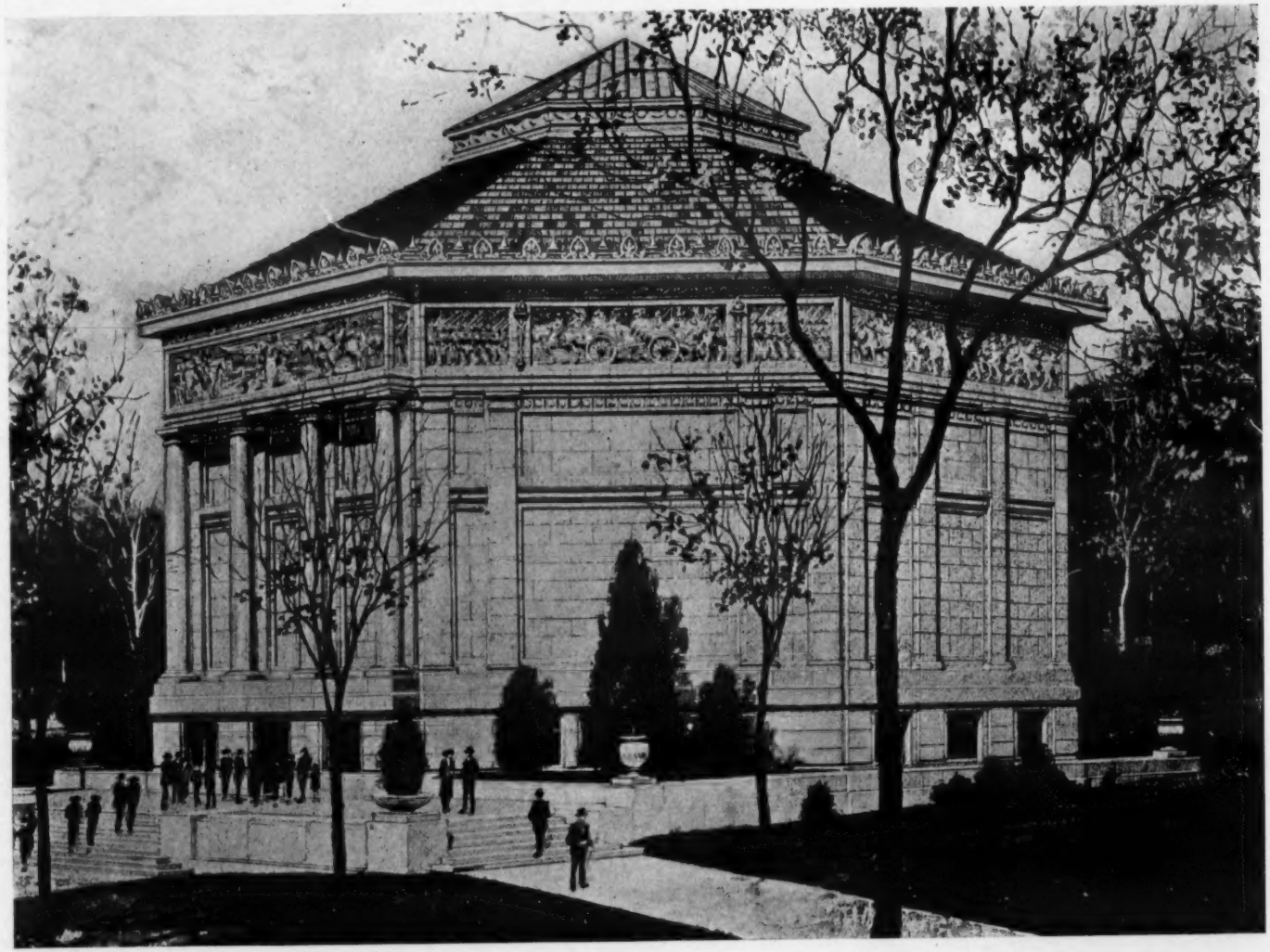
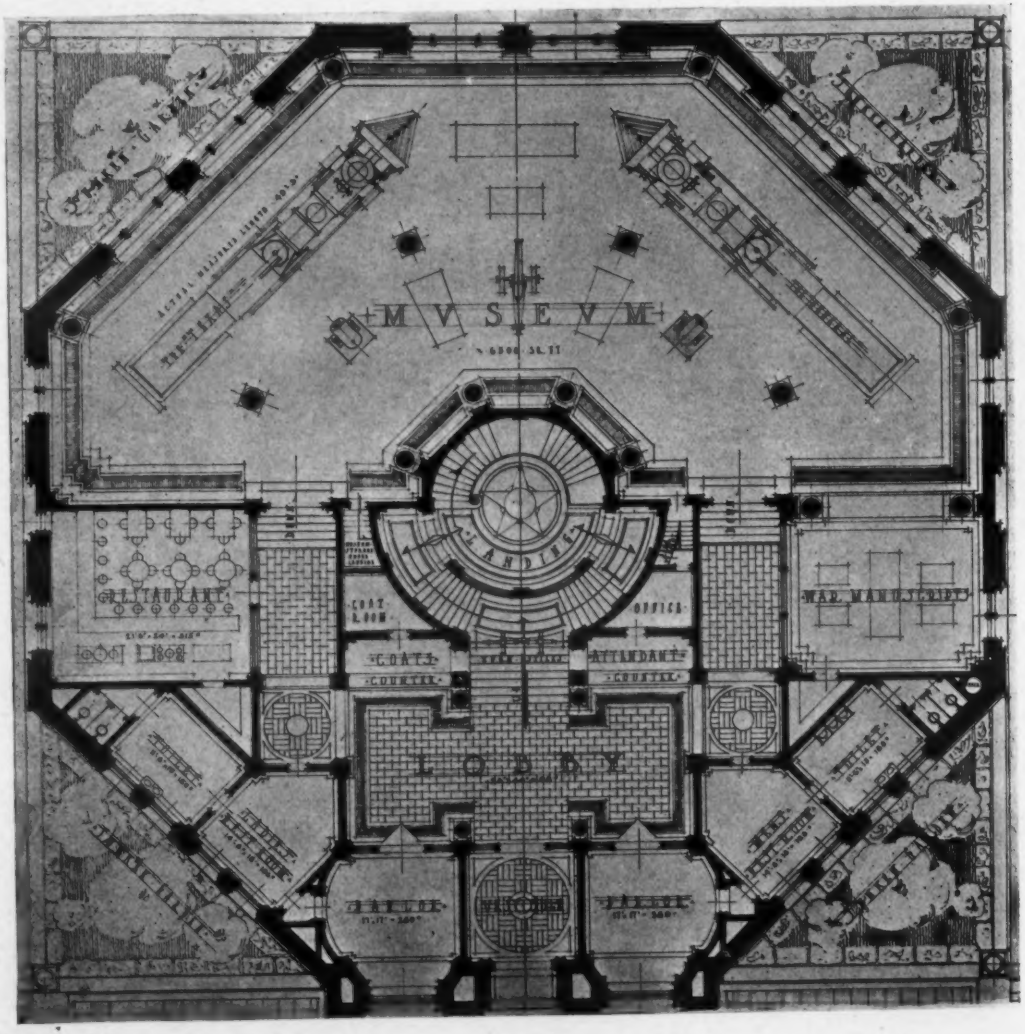
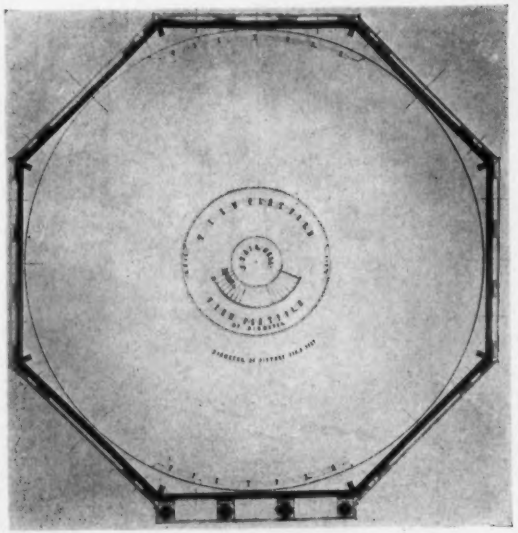


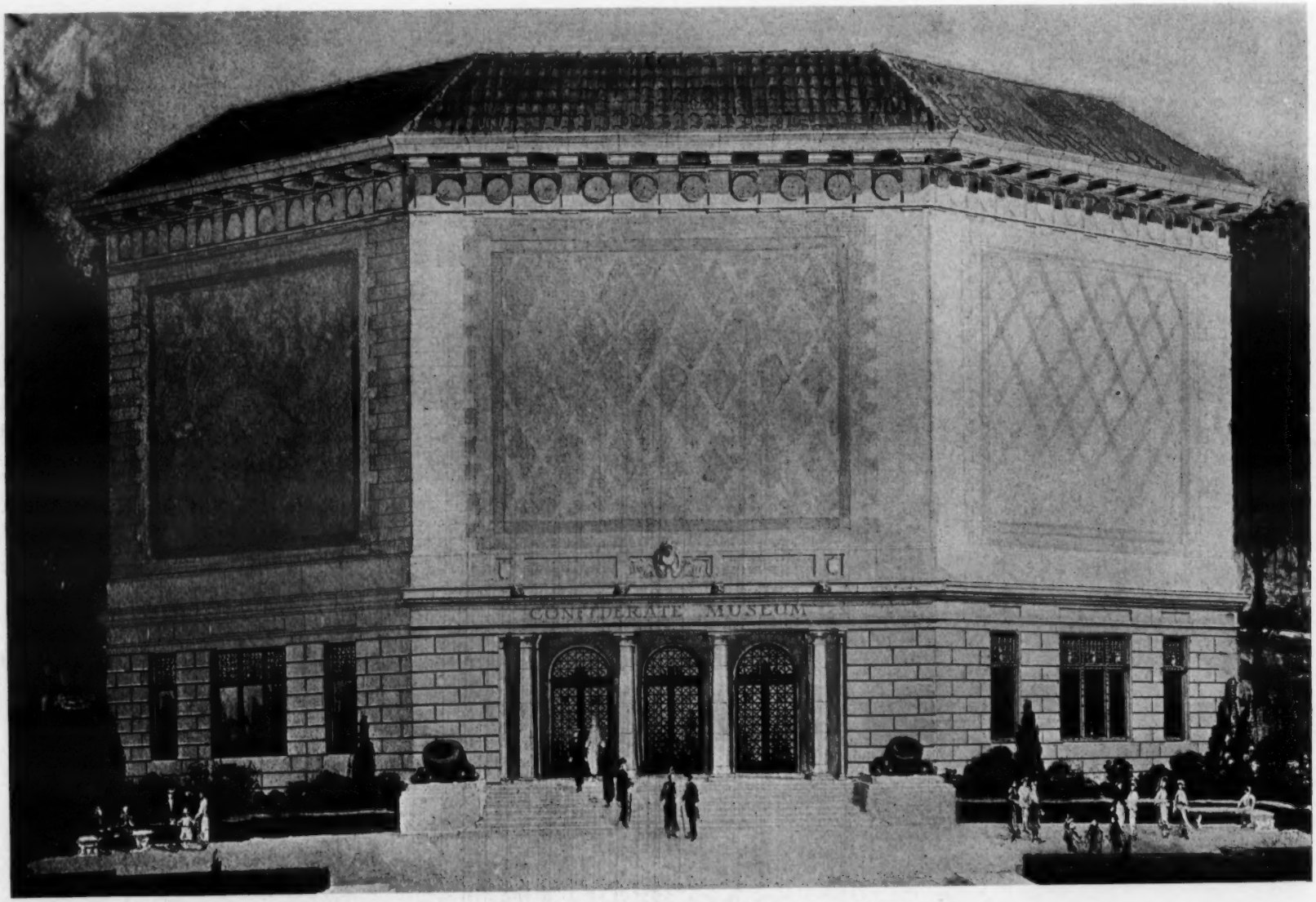
COMPETITION FOR A CYCLORAMA BUILDING AT ATLANTA, GA.
A. TEN EYCK BROWN, *ARCHITECT*



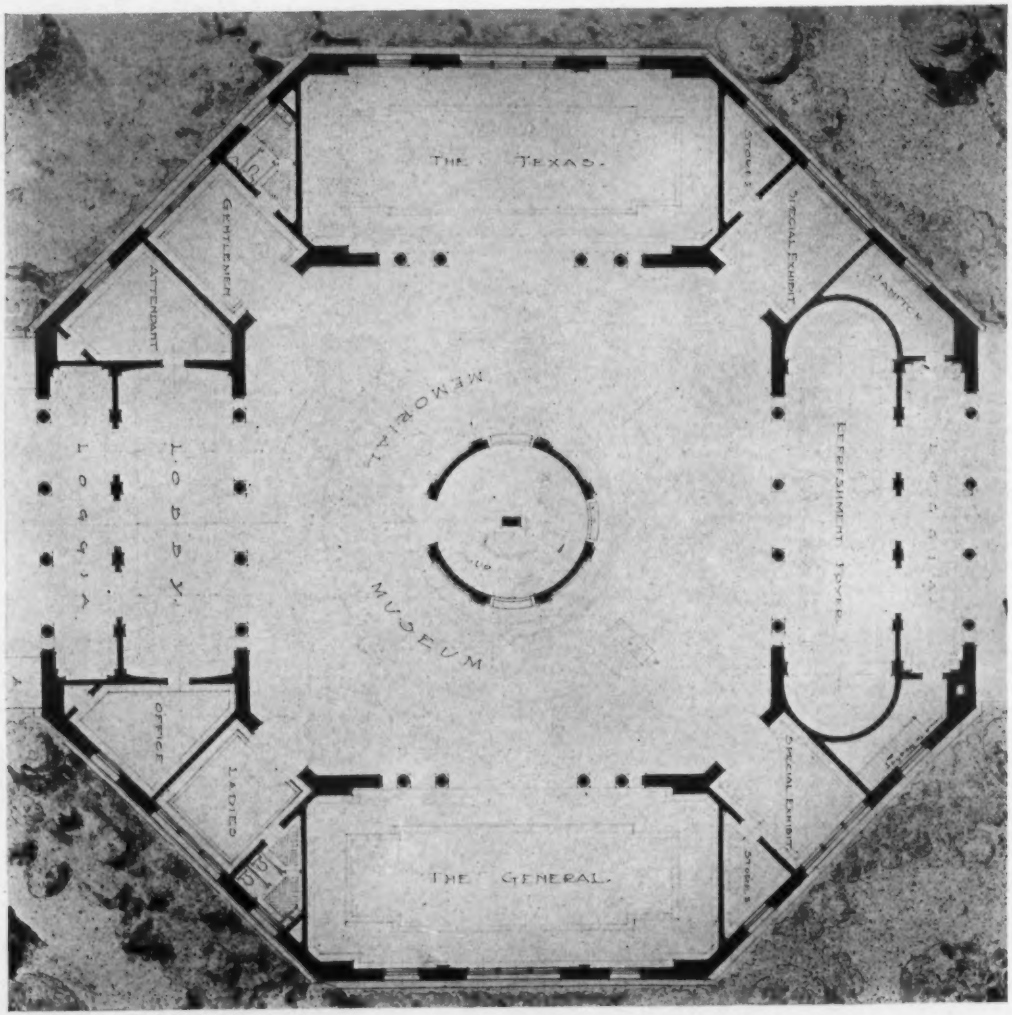



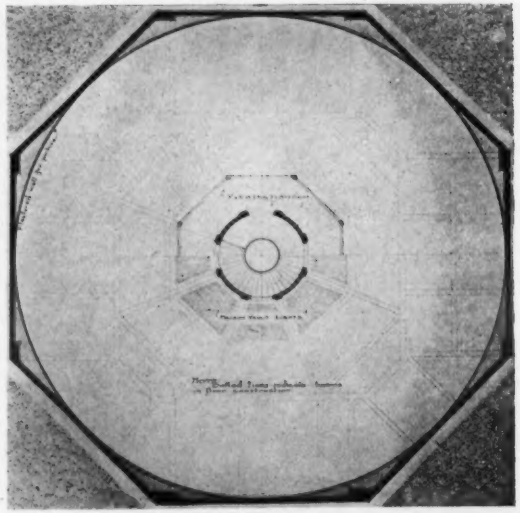
COMPETITION FOR A
CYCLORAMA BUILDING
ATLANTA, GA.

A. TEN EYCK BROWN,
*ARCHITECT*



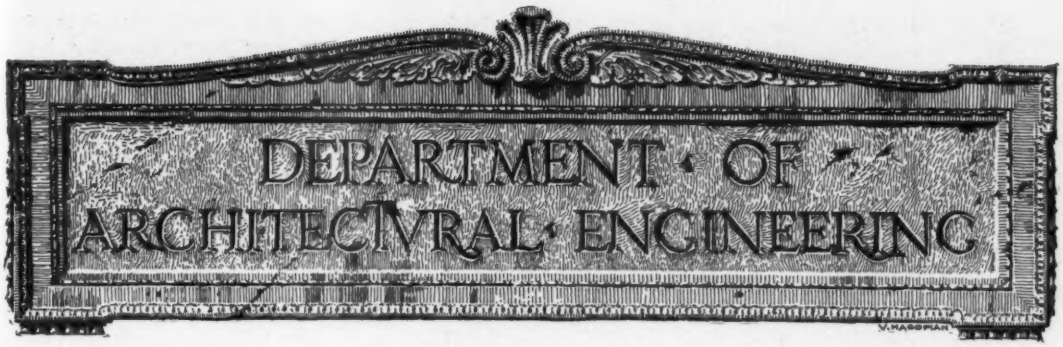

COMPETITION FOR A CYCLORAMA BUILDING AT ATLANTA, GA.
BURGE, STEVENS & CONKLIN, *ARCHITECTS*



COMPETITION FOR A
CYCLORAMA BUILDING
ATLANTA, GA.

BURGE, STEVENS & CONKLIN,
*ARCHITECTS*

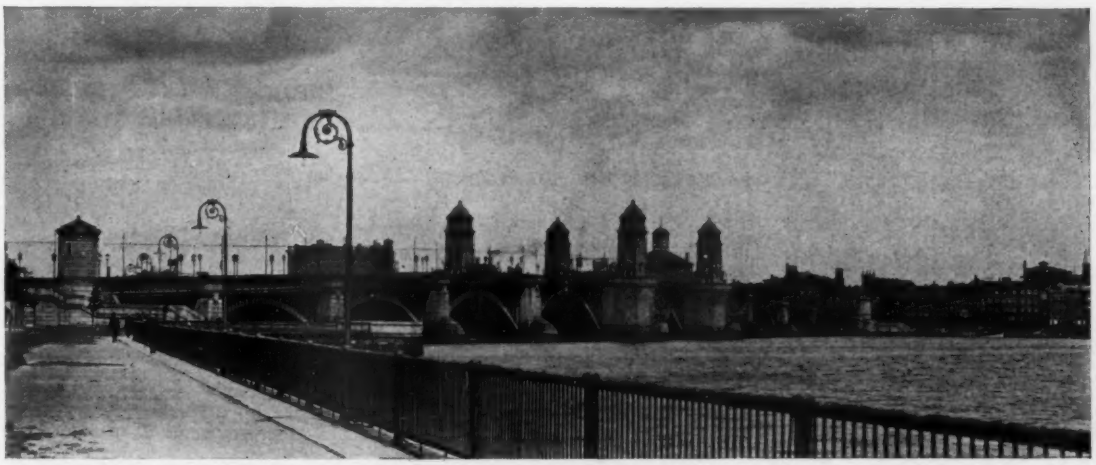



# The Architect a Necessary Factor in Bridge Building

## Co-operation Between Architect and Engineer Essential to Improved Bridge Design

*By* FRANK A. BOURNE

THERE are two points of view in bridge building. One relates to putting up a structure as inexpensively as possible to carry the traffic; the other relates to building a bridge that will be an ornament to the landscape. In Boston, as elsewhere, there are both kinds. The railroad bridges leading out from the North Station are apparently built as economically as is consistent with holding up traffic. The Harvard Bridge, illustrated on page 218, and which goes with a series of hops, skips and jumps across the Charles River, is not likely to cause a feeling of pride in the Bostonian's heart. The skip and jump construction, which is quite noticeable—i. e., one rather narrow span alternating with a wider one—is very unpleasant, as well as disconcerting, to the observer. The smaller span is not sufficiently narrow to form a correctly proportioned alternate span, and yet not wide enough to present the appearance of continuous even spacing. The best argument in favor of a different form of construction is to compare Harvard Bridge with the West Boston Bridge, an illustration of which appears above. We may, of course, criticise the towers of this latter bridge, and speculate as to the reason which led to placing the carved decoration out on the large piers at a point where no one who is not a Union Boat Club member can see it, and he only at the risk of taking a sudden



THE WEST BOSTON BRIDGE

capsize. Yet the effect of the bridge on the basin is extraordinarily beautiful. Seen through the mist, it has an interesting skyline; in bright sunlight the shadows cast are very effective, while at night the reflections of the light in the water are like strands of variegated colored worsted, and the line of lights is extremely interesting against the sky.

Another interesting bridge is the Larz Anderson Bridge near Soldiers' Field. The curve of this bridge, as will be noted from the illustration, is better than that of the West Boston Bridge, and the use of materials very striking.

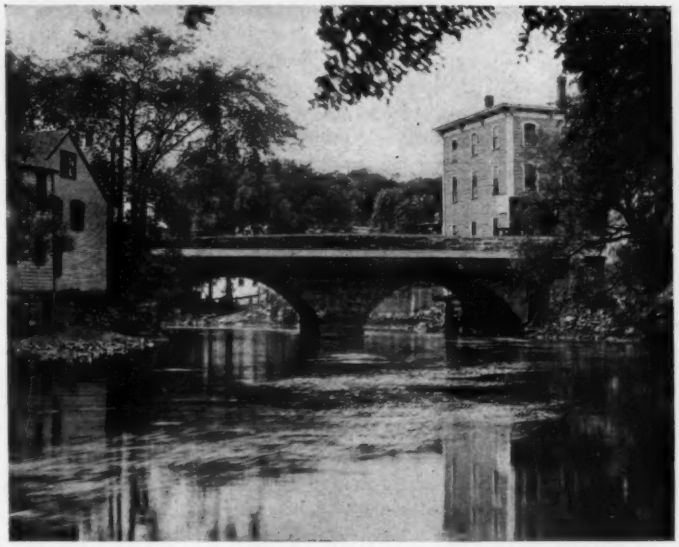
THE HARVARD BRIDGE

THE point of view of the two different kinds of bridges is that of the civil engineer in contrast to the architect. It is the duty of the civil engineer to provide a stable structure with the utmost economy. He follows the most advanced "theory of structures," and stress diagrams, bending moments and mathematical formulae are ever before him. While these are all necessary and essential to safety, the architect feels they are but a means to an end. His prime duty is to harmonize the structure with the landscape, and like any master builder building well, it is also his duty to build beautifully. Take the problem of a bridge and give it to an architect, let him develop it freely and unhampered; then give the same problem to an engineer and have it developed from the other point of view. Compare the costs and the difference in cost may be the amount that you will want to charge for your civic pride, or possibly if the bridge be a memorial, that difference may be what you could charge off as the cost of the memorial. The bridge will have to be built in any event, therefore, it is unfair to charge that part of it which represents stability alone to the cost of the memorial. The additional *something* which lifts such a structure above the ordinary and places it with things beautiful is the feature that will call to mind the service to be memorialized. And while it may sometimes be the case, it does not certainly follow that the architect's scheme will be more expensive than the engineer's. It may be that the beautiful line of a Melan arch will in certain localities work out as inexpensively as the crude, harsh lines of a Pratt steel truss. It may be that a perfectly simple straight line is the line that will harmonize best with the landscape, and at this point both the architect and the engineer can meet. One of the ablest civil engineers I know is very clever with his own pencil; another is an authority on French and American painters. A mechanical engineer of my acquaintance is an extremely good illustrator, and some of the sketches of "The Wonder of Work" are very alluring artistically and practically. Any of these men can outdo many architects on these particular lines. It is perfectly possible to ask what is in a name, but primarily the engineer starts with a cold mathematical, usually inelastic, analysis of the problem, while the architect starts from the

imaginary end. If the construction is to be a work of art it should be from the imagination first; then while the idea is in its plastic state, it should be moulded and carried further until perfected in every detail. When the engineer and the architect have both arrived at perfection, they will have met at the same point.

Is the bridge to be a memorial? What better can you think of? Take such a type as the Alexander Bridge in Paris, or the picturesque old bridge favorite of etchers, with all its pictures and statuary, in Prague. Notice the pride that our City Fathers take in putting tablets on bridges all over the United States.

Are you looking for interesting details? Compare the arches in this bridge construction with all other arch construction. Everything from a covert to a long steel arch can have beautiful lines. Even out of a draw-bridge you can make something interesting. The steel trusses may have aesthetic lines. There is something picturesque about the long viaduct leading to Hell Gate Bridge. The great war has taught us the military significance of bridges.



CHOATE BRIDGE, IPSWICH, MASS.

THE literature of bridge building is voluminous. United States Government in its various bureaus publishes material; the New York Rapid Transit Commission, and many other city commissions, have illustrated reports. Bridge building has its own periodicals in the Annales des Ponts et Chaussées; the Stadtbaurath of Berlin, Germany, has something to say on the subject; the British School of Athens has published drawings of old bridges. The periodical, The American City, publishes a pamphlet, No 101, on the subject; the Stadtebauliche Vortrage has material on the subject; the International Library of Technology in its correspondence course teaches bridge building.

GREEN STREET BRIDGE, IPSWICH, MASS.

Bearing on the engineering and construction phase, principally in steel construction, since 1807, the following authors' and engineers' names appear: Boller, Burr, Davies, Dilworth, Fidler, Grimm, Hodge, Ketcham, Kunz, Leonard (concrete), Merriman and Jacoby, Skinner, Tedesco (concrete), Thomson, Tyrrell, Waddell, Wells, and back in the '90s George S. Morrison. Morrison's name should not be forgotten; all through the United States are found reports on his bridges. St. Louis, Bellefontaine, Bismarck, Blair Crossing and others too numerous to enumerate. Plans of all these may be found in the Peterborough house that he built. In this Peterborough house, since occupied by the late Miss Mary Morrison, so well known in Boston, a bridge engineer might find much of in-

terest, since here are all the drawings, drawn with the utmost care, rolled and filed in a fireproof vault, so that each could be readily located and consulted.

Page writes on Roads and Bridges for the Farmers' Practical Library; Seaton on Concrete for rural communities, containing a chapter on small highway bridges.

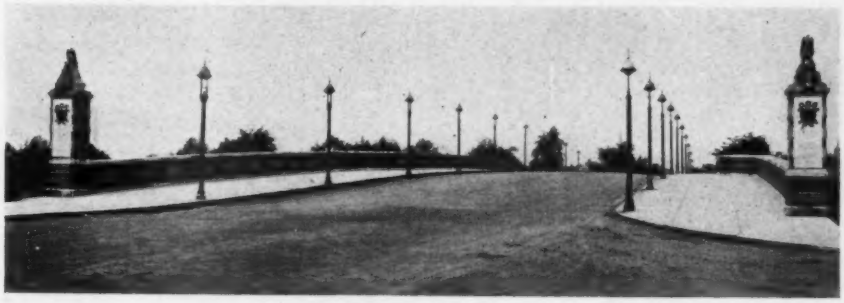
What more inspiring book can you find than Brangwyn's Sketches in Color of Bridges all over Europe, published by Lane in London, 1915? This is a good book for any one's table. I came across a title, The Antietam and Its Bridges; I have not yet seen the book, but I can imagine following some southern river up its course and taking photographs of the different old bridges. What an interesting trip it would make to follow the Connecticut in the same way! An author, Tyrrell, who generally writes on engineering subjects, has written a book, published in 1912, on Artistic Bridge Design. I fear that he is somewhat influenced by his engineering point of view, but the book is quite worth while. Dartein published in Paris in 1907 a book on Old Stone Bridges previous to the 19th century, remarkable for their decoration. Duplomb wrote a history of the bridges of Paris, published in 1911. Mehrtens gives illustrations of A Hundred Years of German Bridge Building. Waddell describes a system of bridges for Japan. Cresy wrote on the works of Rennie in 1839. Genneté described a wooden bridge "202 piés de longuéur" in 1770. Hutton wrote on the principles of bridges in 1801. Grothe described the Tay Bridge in 1878. Perronet, the bridges of Neuilly, etc., in 1772. Leupold used the Latin title, which at first sight seemed to have something to do with a church: Theatrum pontificiale, Leipzig, 1726. Ware wrote on bridges in London, 1822. Welch described the Tower Bridge, 1894. The Calcografia Camerale published some interesting designs for bridges by Aquaroni in Rome, 1836. Swan collected designs in architecture, to which are added Curious Designs of Bridges, London, 1757. Our own New England Ithiel Town, who lived from 1784 to 1844 and built many churches throughout New England, published in New Haven in 1821 a book on Bridge Building, republished again in New York in 1831 and 1839.

THIS shows that even in those days architects were well known as bridge builders. Even if it meant no more in many cases than the curious old covered bridges with Greek or Egyptian portals, the results achieved in most instances were certainly far better than their successors, the steel trusses, of the last twenty or thirty years. An awful example of this stood for years, and may be standing now, over the Penobscot. Originally it was a long covered bridge, with a quaint, heavy classic entrance portal. The middle span having become weak, or else damaged by a freshet, was replaced by a steel truss. The other spans of the bridge remained untouched, thus leaving a structure neither fish, flesh, fowl, nor yet good red herring. The old Choate Bridge, a photograph of which appears on page 219, has the reputation of being the earliest stone bridge in the country. It is located on the main automobile route to the north of Boston, just on entering the town square of Ipswich, and is worth more than a moment's pause. It is indeed a picturesque old stone arched bridge. The Green St. Bridge, also illustrated, is but a short distance away, in the same town. It is also most picturesque, being a two arch bridge and deserves more than passing notice. Both of these structures show that for permanence stone arches are certainly worth while. Of the materials, wood, steel, concrete and stone, the last is the one that has best

THE LARZ ANDERSON BRIDGE

stood the test of time, although its selection is not possible as a suitable material for long span bridges.

The collaboration of architect and engineer in bridge design will bring to these structures a beauty of line not heretofore attained in the majority of American bridges.



ROADWAY, LARZ ANDERSON BRIDGE

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# Report on Trip to Princeton, College of City of New York, Yale and Harvard for the Purpose of Inspecting the Stadia at those Universities

*By* HOWARD DWIGHT SMITH

## Part IV

THE information received at Harvard University both from the point of view arrangement as well as from the structural and architectural point of view is quite valuable.

Seventeen years of experience in staging athletic contests of all kinds and handling crowds of varying sizes has given the Harvard Athletic Association the opportunity to analyse their problem fairly well and to know wherein their present structure is successful and wherein it leaves something to be desired. The present Graduate Manager, Mr. Fred W. Moore, has been directly in charge for some eight years and has had considerable previous experience in the management of athletics at the Springfield Y. M. C. A. Training School.

Managing a large and extensive collegiate athletic event with a large number of spectators is not unlike managing a circus. Experience adds wonderfully to facility in handling both the exhibition and the crowds. Harvard has probably had more experience along this line than any of the large universities, and it must be said for their athletic management that they are very generous and more than willing to be of assistance to persons who are studying their problems.

Most of the observations herein noted, particularly those which do not deal directly with architectural features, are inspired by the very interesting data furnished by Mr. Moore, Dr. Withington and the ground keeper of Soldiers' Field. Mr. Moore has said that a great deal of correspondence has come to his office containing inquiries with reference to the Harvard Stadium. These he has always tried to answer as fully as possible, but he says that seldom has any one seen fit to have a personal interview with his organization with a view to obtaining extensive information at first hand. On the occasion of this inspection, the interest shown by the Harvard men in the problem involved in the proposed Stadium at Ohio State University was as great as if the new structure were to be built for Harvard itself.

Of the many thoughts obtained at Harvard the first was this: If you have competent athletic management and experienced business management of



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ONE OF THE STRAIGHT SIDES OF THE "U"—HARVARD STADIUM

athletic affairs, take them into your confidence, they will help make your problems practical, they know the particular peculiarities of your problems as no one else does.

Reference is made at this point to the system of handling the distribution of tickets among the alumni for the important events. Business managers of other organizations would do well to study the methods developed by years of experience, whereby applications are received and tickets distributed for events where the demand for seats always exceeds the supply. Equitable distribution, avoidance of speculation, and facility of operation are features of the system which are commendable.

The Harvard Stadium is located on Soldiers' Field, the great athletic ground of the university on the Boston side of the Charles River. It is reached from Cambridge by way of the new Larz Anderson Memorial Bridge. The proximity of the field to the college buildings, particularly the newer and larger of the dormitory groups is quite fortunate.

Although the seating capacity of the masonry portion of the structure is hardly more than a third of that of the Yale Bowl or half of that of the Palmer Stadium at Princeton, the Harvard Stadium is by great odds the most imposing. The fact that the playing field is not sunken below the level of the surrounding turf makes the structure rise actually higher from the ground than either of the others mentioned, giving it a most imposing size as viewed from the Anderson Bridge or across the river. Every advantage has been taken by the designer of its great size, which has been emphasized by crowning the structure with a great colonnade. This colonnade is composed of so many parts as to make it look to be of enormous length. By breaking up the line of the upper seats by this architectural feature of many comparatively small parts, its developed length of some 1,350 feet appears to be considerably longer than the line of upper seats of the Yale Bowl, the developed length of which is about 2,400 feet.

The Stadium is U shaped, the closed end is built on an arc of a true circle, in contrast to the flattened curve as at Princeton, and with square towers at the end of each of the straight sides. Within this space there is the football gridiron and a quarter mile track. The track follows the circle arc curve of the closed end of the U and the opposite end of the closed track extends outside the tips of straight sides of the structure.

The inner wall of the Stadium is 9 feet high, and the space across the field from wall to wall is 230 feet. This places sides of the gridiron 35 feet from the inner wall of the stadium, but only 15 feet from the edge of the running track. Attention is directed to the fact that a hard track curb so close to the gridiron is not desirable, although under present rules there is less chance of danger to football players from this source than heretofore. The extreme height of the inner wall is of advantage in allowing the placing of twelve additional rows of seats over the running track within the entire structure, accommodating some 7,000 persons. But the great height of this wall and the closeness of the track to it make it impossible for spectators beyond the second row of seats to see any track events on the near



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side. Consequently it has been found more desirable to sell seats on the side opposite the straightaway for track events. Circumstances have shown, however, that the best seats at the important meets are those around the circular end, because of the closeness to finish line of the dashes. The high seats in the circular end have proven especially desirable because of the fact that they are high enough up to allow the spectator to get a slanting view of the runners during the dashes and are close to the finish line.

Accompanying this report is a diagram of seats for the Yale-Harvard track meet, showing the prices of seats. This diagram shows that only $1.50 seats include only two rows along the side of the straightaway up to the curved end. Practically the entire half of the curved end on the straightaway line is included in the $1.50 section. The other half of the curved end is included in the $1.00 section, while the entire tier of seats on the side of the U opposite the straightaway are in the 50 cent section. This circular end of the stadium will seat about 8,000 persons and is always used for class day exercises and for pageants, Greek plays, etc. The acoustics are very satisfactory and the university is considering the advisability of holding commencement exercises there.

In the stadium proper there are thirty-one tiers of seats, between the inner 9 foot wall and the colonnade at the top. The flat space behind the colonnade at the top was originally intended to be used only as a promenade. The demand for additional seating capacity led to the placing of temporary wooden stands on the promenade back of the columns. These temporary stands accommodate 8,000 persons, and on account of the expense of taking down and putting up each season, and because the promenade was of little use as such, these seats have become a permanent feature. The great demand for seats evidently has accounted for the apparent lack of criticism of seats behind the columns.

A row of seats has also been provided on the roof of the colonnade, adding another thousand. The temporary stands placed at the open end of the stadium are arranged to seat about 12,000. The total number of seats for the Yale-Harvard game of 1919 was approximately 50,000.

The seats in the stadium proper are reached by a series of thirty-eight stairways, which rise directly from the ground beneath the seats to portals or eyes in the aisles about one-third way up. There is a second row of portals or eyes about two-thirds of the way up, which are reached from an interior promenade about 30 feet above the ground level. This promenade is reached by four large stairs, one in each of the end towers and at a point approximately where the straight sides join the circular end. These upper eyes or portals have been closed up where there have been large crowds for three reasons: (1) Those persons attempting exit by them have invariably tried to use the tower stairs, caus-

AN AIRPLANE VIEW OF THE HARVARD STADIUM
McKIM, MEAD & WHITE, *ARCHITECTS*



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ing congestion on the upper promenade near the towers; (2) experience has shown that the lower series of portals is sufficient for all practical purposes in emptying the stadium of a capacity crowd; (3) temporary seats in these upper portals increases the seating by 550, which is an important item where the demand and the added income are considered. There are no openings through the inner 9-foot wall to allow egress to the field directly from the seats. After football games, however, when the twelve rows of temporary seats are in place, access to the field is easy. It has been found that there is some difficulty in keeping persons from scaling the 9-foot wall and getting out onto the field during a track meet. This contingency should be avoided if possible.

One of the advantages of having two rows of portals or exits from the seat tiers would seem to be the ease with which the stadium might be emptied of a capacity crowd. Experience has shown, however, that the circulation congestion does not occur at the stadium itself, but at the Anderson Bridge, which provides the only means of egress from Soldiers' Field to Cambridge. Harvard Stadium crowds have learned that haste in exit from the Stadium itself is useless on account of the "bottle-necking" of the traffic at the bridge over the Charles River. The lesson to be learned from this circumstance is that the problem of handling the large crowds is not confined to the structure alone but to the features of the surrounding territory as well.

In controlling the crowds at entrances it has been learned that they should be separated and directed to their respective sections as far away from the actual entrances as possible. Crowd psychology leads to congestion at those openings which are of easy access or prominent in appearance. All signs or placards indicating section numbers or giving directions should be large and as high as possible.

As an example of this principle it might be mentioned that in order to prevent congestion at the first few openings adjoining the southwest tower, a long rope is stretched diagonally out from the corner of the tower in order that persons may not turn the corner so close to the structure as not to be able to see the entrances farther down the long line of the Stadium.

Numerous propositions have been considered at Harvard to increase the maximum seating capacity. It has even been suggested by one alumnus that permanent seats be built out over the track, that the sight line or slope of the existing tier of seats be lowered in the rear and that an upper deck be built over the rear third without increasing the height of the exterior wall. It is hoped that this will not be done without the advice and assistance of a designer who might study the problem with a view to retaining the present dignified architectural character. While this alteration has not yet been seriously considered, it is of interest to Ohio State University, because of the fact that the athletic authorities have presented the definite requirement of a double deck in their proposed new structure, since it gives increased seating capacity nearer the playing field than does a single tier of seats, and it also provides roof protection over a portion of the seats, which is of advantage in inclement weather as well as in extremely warm weather.

It is also interesting to note the comment of the Harvard management on the straight sided stadium, as contrasted to a structure with curved or "bowled" sides. They recognize that there is a certain psychological advantage in having the crowds so placed as to permit each person to see as much of the entire crowd as possible. This is especially noticeable with cheering sections. But an additional advantage of the "bowled" side is in the partial equalization of the desirable seats. The greatest demand for seats is, of course, along the middle of the sides. If, however, the middle sections are moved back from the edge of the playing field any appreciable distance there is less apparent difference between the value of seats in the middle section and those of the sections nearer the ends of the fields. This may be illustrated in this way: Assume a seat in the first row, opposite the middle of the playing field, and draw a line from it to the goal posts at each end of the gridiron; then assume a seat in the front row, opposite the goal posts at one end of the gridiron, and draw lines from it to the goal posts as before. The lengths of the lines from each of the seats to the goal posts in a curved side structure, show the seats in the end sections to be relatively much more desirable than in a straight-sided structure.

(*To be concluded.*)

# Current News

## Happenings and Comments in the Field of Architecture and the Allied Arts

### Judgment of the Competition for Remodeling a New York City Tenement Block Is Deferred

It is announced that the final judgment of the Competition for the Remodeling of a New York City Tenement Block, which is being held under the auspices of the Joint Legislative Committee on Housing and the Reconstruction Commission of the State of New York, has been deferred until the middle of August.

A large number of very interesting solutions that promise possibilities of increased light and air have been submitted.

The competition program stated that the object of the competition was to find a plan of remodeling that would encourage such alterations by the demonstration of its economic wisdom and the value that would come from the improvements, and that the relation of costs to results obtained will be a predominating factor in determining the judgment.

So as to better judge the actual costs, it has been found necessary to procure estimates on the competing drawings. As soon as these estimates have been received, the jury will be prepared to make final judgment and an exhibition of the drawings will be held.

### American Reconstruction Unit Leaves for France

One of the first officially recognized groups of American engineers and landscape architects who will engage in reconstruction work in the devastated area in France sailed from New York, July 8, under the name of the Harvard Reconstruction Unit. The organization consists of twenty members, headed by Reginald Coggeshall, Department of Government, Harvard University, who was appointed by President Lowell to take charge of the unit after it was organized by Robert Buell and Guy H. Lee of the graduate school of landscape architecture at Harvard.

The membership of the unit is made up largely of post-graduate students as follows: Harvard, fourteen; Massachusetts Institute of Technology, two; Columbia, one; Yale, one, and Princeton, one. Almost all of the members are former A. E. F. men. Town planning work in co-operation with the French authorities covering a period of three months has been outlined, the American unit serving without compensation, but with expenses while in France paid by the French Government and the Department of the Meuse to which it has been assigned. Its work will be carried on in the Argonne district. The temporary address of the organization is Harvard Reconstruction Unit, care Guaranty Trust Co., 1 Rue Des Italiennes, Paris.

### Salisbury Cathedral

The Salisbury Cathedral was begun in 1220, and it celebrated its seventh centenary last month. Salisbury's cathedral is unique among English cathedrals as having been built practically all at one time and in one coherent style. Its most famous feature is the lofty stone spire, finished in 1258, the highest spire in England (404 feet). E. Slocombe's well-known etching of this Gothic monument is handsomely reproduced in the Illustrated London News for June 26, as a mark of the occasion. Baedeker says Salisbury Cathedral is a "splendid example of pure Early English," and that it was begun and finished within a period of forty years. Fergusson points out that there is scarcely a trace of foreign influence in the building, and that it is "one of the best proportioned and at the same time most poetic designs of the Middle Ages." Baedeker speaks of the interior as somewhat cold and bare, which is, we believe, quite true. We also remember the West Front as being quite the worst of any in England. But the cloisters are very lovely. On the whole, however, Salisbury is not by any means to be compared with Canterbury, Wells, Lincoln, York, Durham, or Ely for architectural beauty and character. It has a sort of cold correctness that some of the other English cathedrals lack, but, in spite of its "coherent style," it does not make the wonderful appeal to the heart of the beholder that the matchless mediaeval monuments above-mentioned invariably do make in their several distinctive ways. No study of England's ecclesiastical architecture would be complete without a careful reference to Salisbury.



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## Architecture

*By* ALEXANDER HARVEY, *in "Judge"*

Architecture is that part of a rich man's home of which he knows the least, although it cost him the most.

A great architect is one who has been dead such a long time that he can be copied with impunity.

A writer must be able to say many offensive things before he can become an authority on architecture.

A school of architecture is a collection of men with the same unintelligible idea.

Queen Anne knew nothing at all about the architecture of her period, in which respect she was no worse off than are the people who chatter about it today.

Success in architecture can be achieved only through the medium of an appropriate vocabulary.

A flourishing period of architecture in the past was fostered by the church. A flourishing period of architecture nowadays is fostered by the wives of millionaires.

If bad architecture lasts long enough it becomes good.

The most devoted lovers of the antique in architecture are the ghosts.

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## As to Temporary Buildings for Schools

In New Bedford, Mass., the suggestion was made at the City Property Committee meeting that the school construction program be dropped for the present and that temporary buildings be erected to house the pupils. Mayor Ashley said it was "absurd when you undertake to put up temporary buildings," he pointed out, "you have to provide heating and ventilating systems the same as you would put into permanent buildings and when you get through, you will find that you have tackled a pretty expensive proposition and it is only a make-shift after all. Taking care of 1,000 or more children in temporary buildings is a waste of money.

"We've got to go ahead with school construction; we can't stop, we must face conditions as they are. I don't know how far we can go."

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## Suggest New Laws for Housing Crisis

Legislation making it a crime for any individual or organization to call a strike on any building being erected for dwelling purposes, or for any individual or organization to endeavor to limit the output of workmen on similar construction, was urged by Edward P. Doyle, secretary of the Mayor's Housing Conference Committee, in a brief submitted to the Lockwood Joint Legislative Committee on Housing. The committee is gathering data to determine whether or not to recommend a special session of the Legislature to relieve the housing crisis anticipated next October.

The Doyle brief attacked the Lockwood rent relief laws passed by the last Legislature as "ill-considered and hasty legislation," in that they deprived owners of the control of their properties and placed it in the hands of Municipal Court judges. Without such legislation which discouraged builders and investors, he argued, the natural laws of supply and demand would have already operated to remedy the situation.

The Doyle brief was the only criticism of the rent laws. Municipal Court justices have been practically unanimous that the new laws have had a salutary effect and that a special session of the Legislature is not necessary.

The brief was not accepted by Chairman Lockwood, as the committee wants to cross-examine its author at the next meeting.

Witnesses heard today were Municipal Court Justices Timothy A. Leary of Manhattan and Charles J. Carroll of Brooklyn. Justice Bogenschutz of Brooklyn sent a letter stating that the rent laws were working well.

One of the weaknesses of the present laws, it was declared, was in the fact that tenants are given not more than one year's stay in holdover proceedings. It would be beneficial in some cases if the period could be made a longer one, he felt. On the other hand, such a change in the law, he admitted, might discourage builders.

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## Color in the Hospital

*By* WILLIAM O. LUDLOW, *of Ludlow & Peabody, Architects.*

There is a general feeling of antipathy toward the hospital, that should not and need not exist. True, it is a place of suffering, but its chief object is relief of suffering, and its most important function is convalescence.

Our feelings and sentiments of antipathy or attraction are largely influenced by the impression that the appearance of things makes on our minds, and the heretofore grim and institutional aspect of the hospital without, and its cheerless and barren appearance within, are partly responsible for the common dread of an institution whose very atmosphere should breathe a welcome to tender care and comfort.

But our thought has been so engaged in bringing about ideal negative conditions—no dirt, no noise,

no odor—that we have forgotten often the positive conditions of environment that may be more effective in bringing back bodily health than what the nurse gives from the spoon.

During the period of recovery, the mind of the one in the hospital bed is perhaps more than usually responsive to the aspect of his surroundings. The tired eye that forever roams over wall and ceiling until every crack is known by heart, craves something more positive than barren white walls; it wants objects of interest, such as pictures, stenciled patterns, hangings at the windows, and above all, the repose and warmth that only color can give.

White is negative; the convalescent needs the therapeutic reaction of the positive colors that Nature has spread so lavishly for her children. Her forest walls of white leaves! Her carpet of white grass! Her limitless ceiling of white! God forbid. Our eyes were made to find rest and contentment in soft greens, pale blues, in occasional touches of red, but above all, in the glorious golden yellow of the sunshine.

White is the winter color, dazzling and brilliant, but is somehow reminiscent of the cold and cheerlessness of that season.

Let us then cover our hospital walls with color, selecting those that give warmth and quiet, and that gentle stimulation that helps the feeble body along the road to recovery.

## Housing Plans for Cities

Realizing the difficulties confronting the prospective home owner of small means and the almost complete withdrawal of the speculative builder from the present field of building activity, the Southern Pine Association has taken up the housing shortage question in what seems to it to be the only open road to that activity which alone can bring about a solution of the problem. And it may be said here that the problem now is as pressing as at any time and the troubles of the home seekers will soon reappear and possibly will be more aggravated. So the association has taken up the proposition along the line of furnishing information on how we can build now, and its first effort is a new pamphlet entitled "Housing for Cities." This publication is being distributed to boards of trade, libraries, corporations, building and loan associations, retail lumber dealers, architects, engineers and others. The booklet describes the various plans adopted by industrial corporations and other bodies to meet the situation in various cities.

The desire to build is widespread, but the great trouble is to finance the work, and the association, by making available full and reliable information of plans now in effect, hopes to aid those who are now bending their energies to relieve the shortage through the organization of home-building companies.

## Shingle Production In Washington State

Production of shingles in 1918 was three-fourths of the entire shingle output of the United States, according to official compilations just completed by the government forest service and dispatched to Seattle lumbermen Monday. During 1918 a total of 158 mills in this state cut 4,238,714,000 shingles, while the production of the entire country totaled 5,690,182,000 shingles.

In the production of lath a decrease from the previous year is shown in the 1918 forest service figures amounting to 40 per cent. This smaller output reflected the light demand and the character of construction work carried on during that year; lath production fluctuates each year with the number and class of buildings constructed. Forty-two Washington state mills cut a total of 154,668,000 laths during 1918, ranking third among the states, with Louisiana and Minnesota in the lead. In the previous year this state produced 230,194,000 laths.

The forest service also illustrates the quantity and kinds of woods cut by 455 Washington state mills in 1918 as follows:

Douglas fir, 3,578,831,000 feet; white pine, 65,-865,000 feet; Western yellow pine, 220,231,000 feet; hemlock, 275,693,000 feet; spruce, 275,826,000 feet; cottonwood, 884,000 feet; ash, 47,000 feet, and 936,- feet of minor species.

The number of shingles cut by five leading producing states in 1918 is as follows: Washington, 4,238,714,000; Oregon, 281,138,000; Louisiana, 272,-866,000; Michigan, 148,565,000; California, 146,-071,000; Florida, 102,725,000.

## The Use of Lumber in Building

More lumber is used in the United States for general building and construction than for any other purpose, says the U. S. Forest Service report of June 1, 1920, before the Senate. In normal years probably 28 billion board feet is used in this way out of an average annual cut of 40 billion feet.

For the five years before the war, 1910-14, the average annual building bill of the country shown by building permits was approximately $670,000,000. After dropping to $445,549,493 in 1918, it rose in 1919 to $1,326,736,702; but with building costs increased 100 per cent. or more, actual construction did not much, if any, exceed the pre-war average. Ap-



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parently construction work throughout the United States is behind requirements. The deficit is greatest in dwelling houses.

The building permits issued in 21 cities of various sizes widely distributed over the country show that, in values, housing construction formed 36 per cent. of all building in 1913; 21 per cent. in 1918, and 27 per cent. in 1919. The amount of housing construction in 1913 was exceeded in 1918 in only two of the 21 cities, and in 1919 in only six, in spite of the "build-a-home" campaign. The falling off in house construction, continues the Forest Service report, generally appears to have been particularly marked since the latter part of 1919, when the greatest upward movement of lumber prices began.

The United States Housing Corporation states that normally 30 per cent. of the number of buildings constructed are dwellings; that in 1919 dwellings were only 15 per cent.; that 1,000,000 families in the United States desired houses even before the war; that the shortage has since increased very rapidly; that there were but 70,000 houses built in 1919, when to have met the requirements there should have been 500,000, and that in 1890 an average of 110½ families occupied 100 homes, but today 121 families occupy 100 homes.

## Annexations and City Planning

Annexations of territory to cities are generally made either through a desire for increase in size or to secure public improvements in outlying districts. An added reason might well be the furtherance of comprehensive city planning comments *Engineering-News Record*. This does often enter in to some extent, but generally in a detached way and rarely if ever with a clear far reaching view of all that enters into city planning—major traffic streets from outlying districts to the center of the city, parks, transportation service and other utilities. The argument should not be carried as far as to make the extension of these facilities conditional on annexation, for a proper spirit of co-operation between cities and outlying districts will make regional planning possible without consolidation.

## A Record Year for Strikes

The Bureau of Labor statistics of strikes during the year 1919, which have just been compiled, show the last year to be a high record in the number of men involved and the number of work days lost. The actual number of strikes and lockouts was more than in 1918, but less than in 1916 and 1917.

The strikes of the past year were found to include larger bodies of men. There were nine, in each of which more than 60,000 men were involved. In 1916 there was but one of this magnitude, in 1917 there was but one in which more than 40,000 men struck.

The average duration of the strikes also reached new high figures in 1919, being 34 days for a strike and 38 days for a lockout. In 1918 the average length of the former was but 18 days, and of the latter 31 days. In 1917 the averages were 18 and 56 days respectively, and in 1916, 22 and 64 days respectively.

## Personals

Chester Walcott now has offices at 8 East Huron St., Chicago.

William H. Furst, architect, has opened offices with R. G. Wolff in the Marquette Building, Chicago.

William Whitehill, architect, has moved from 32 Union Square, New York City, to 12 Elm St., that city.

Nathaniel Koeingsberg and Louis I. Simon announce their association as architects and engineers at 8 South Dearborn St., Chicago.

John A. Armstrong, architect, has moved from 11 South La Salle St. to 127 North Dearborn St., the American Bond and Mortgage Building, Chicago.

William T. Braun and Edward A. Nitsche have formed the architectural firm of Braun & Nitsche, and have offices at 64 East Van Buren St., Chicago.

Morgan D. E. Hite and Walter J. Ferguson, architects, New Orleans, La., announce the removal of their offices to Canal Bank Annex, 211 Camp Street.

The Industrial Development and Improvement Company, architects and engineers, have moved from 230 South La Salle St. to 118 North La Salle St., Chicago.

Joseph J. Galizia, whose architectural office was formerly located at 2845 West Twenty-third St., Coney Island, Brooklyn, is now located at 2930 West Nineteenth St.

Thompson & Mellema, architects, formerly of 640 Broadway, New York City, have dissolved partnership. Mr. Thompson has established an office at 189 Montague St., Brooklyn, and Mr. Mellema has gone to California.

Thompson & Binger, Inc., engineers and contractors, New York and Syracuse, have moved their New York engineering offices to 150 East 41st Street. They desire to receive catalogues of building material supplies.

# Weekly Review of the Construction Field

## With Reports of Special Correspondents in Prominent Regional Centers

The view of the Federal Reserve Board upon the building situation starts with the observation: "There appears to be no difference of opinion concerning the causes that are responsible for the difficulties that hamper building operations. The hindrances are summed up under the all-inclusive heads of high prices of structural materials and heavy labor costs; transportation troubles that make the securing of supplies problematical; and inability to obtain funds for financing contemplated projects, especially residential structures."

And then this report says: "It is true that although all these factors are operative, reports from certain districts are inclined to stress some one factor while minimizing the importance of others. The situation in the West and Southwest appears to be much more favorable than in other parts of the country. District No. 11 (Dallas) and No. 12 (San Francisco) both report increased activity in the month of June as compared with May. District No. 1 (Boston) emphasizes the shortage of lumber and other structural materials resulting from congested traffic conditions, and predicts that prices will remain high, probably into the spring of 1921. However, the total value of building permits in 13 principal cities outside Boston showed an increase of 4.1 per cent. in amount for the first six months of 1920, as compared with the same period in 1919, although the actual number of permits declined from 3,614 to 3,440. District No. 2 (New York) thinks that the principal deterrent to the execution of housing programs is scarcity of mortgage money, the New York situation being made worse by the fact that industrial projects have secured the limited amount of labor and materials available. District No. 4 (Cleveland), although stating that there has been some improvement in securing raw materials, especially cement, during the last few weeks, says that building operations are very low for the season and the outlook for the fall is uncertain. In District No. 5 (Richmond) no improvement is noted—a decrease in the value of permits issued as compared with May is recorded. As for building materials, it becomes increasingly difficult to secure them and a number of lumber mills have shut down because of inability to make deliveries, while cement, crushed stone, steel, brick, etc., are practically impossible of acquisition. Cessation of construction in Richmond is threatened unless the local situation is relieved. In District No. 6 (Atlanta), on the other hand, there has been an increase in the value of permits in some of the large cities, such as Atlanta, Augusta, Savannah and Mobile. A marked drop in the total volume of building permits in New Orleans was no doubt the result of the local carpenters' strike. In District No. 8 (St. Louis) as a result of better weather and improvement in transportation, work already begun has been resumed, but new projects are few. There is no improvement in the housing situation. Labor troubles have also been experienced. Both in the Minneapolis and Kansas City districts the June reports show a reduction in building permits by number and value as compared with May. In District No. 11 (Dallas), on the other hand, improvement has occurred in June, an increase of 15 per cent. in total valuations over the month of May being noted, although the total is 16 per cent. below the record for June a year ago. For the first six months of the year the 1920 valuations exceeded those of 1919 by 147 per cent. Similarly, in the 12th District (San Francisco) building is active, permits issued in 19 cities showing valuation increases of 7.7 per cent. as compared with May, and 63.3 per cent. as compared with June a year ago. For the six month period an increase of 107.17 per cent. was recorded."

In New York as the prices of building materials advance the demand has fallen off and it is expected by many that the prices will thereby be lowered. The larger operations, however, are being carried on with premium prices frequently paid. It is observed by those interested in these larger enterprises, which are to a large extent commercial, the industry is being curtailed through the shortage of raw products at the mills, that coal is not only difficult to get but increasingly expensive and that there is no probability of a marked increase in the production of building materials for a long time to come nor of a reduction in the prices of the same.

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*(By Special Correspondence to The American Architect.)*

CHICAGO.—The high rental of capital is still the menacing obstacle in the path of business and it looks like a permanent monument. The financial powers are pursuing their policy of repression and the labor supply is too small to admit of any advance enterprises. There is no general expectation that by the postponing of new building for a few months, marked savings may be realized through future declines in prices. Even should the long-desired definite recession in prices develop there is much ground for the belief that for some time yet building costs

will show at best but slight decline apart from some temporary fluctuations. It is believed by many that there will be still further advances in building costs generally. As for the influence of credit stringency upon building operations, other lines of business enterprises are also affected, but most of them show no such marked decline in activity as does the building industry.

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*(By Special Correspondence to The American Architect.)*

SEATTLE.—More hopeful signs of a resumption of building activity on the Pacific Coast has been voiced by jobbers during the past week. The improvement as they see it is to begin after the announcement of the new freight rates. A number of the leaders in their lines frankly stated that they had every reason to expect a calming of disturbed business conditions as soon as the railway traffic officials were in position to quote rates from officially published tariffs.

The car situation ,however, is showing no change that will aid the distribution of steel products from the East. All markets seem to be steady. Where there has been an occasional fractional advance jobbers have absorbed it, but it has been noted in all deliveries to the Coast from the eastern mills that the jobber who is willing to meet what might be termed a premium over the market can get delivery in two or three weeks, while he is required to wait 60 to 120 days by following the horizontal prices.

The threatened closing down of the eastern steel mills was of slightly bullish tendency, although it would require the actual fact to produce an upward swing to prices. Smaller sizes of steel pipe in halves and three-quarters are leading in scarcity and there are no stocks on the Coast. Orders for these sizes placed as long ago as last September have not yet been shipped. An occasional car, four months behind the acceptance of contents, gets through. The only improvement in transportation is shown in the delivery of sheet metals, but the small pipe required for small swellings is almost unobtainable and jobbers must continue the ration plan until there is some relief. Similar conditions prevail as to nails.

Lead advanced 10 per cent. Earthenware and enamelware is steady. Jobbers report fair delivery in staple lines, but where specialties are required they are unable to get delivery under 6 to 8 months. Brass goods and fittings are 30 to 90 days en route.

Plenty of roofing and brick is offering all along the Coast. Cement is stronger, with delivery in the first zone, Seattle, at $4.60. Jobbers place the responsibility for the cement scarcity on the sack shortage. There is not any demand for metal lath. High rib is $1.15, due to the fact that nothing else is used in Class A construction in the Coast cities. Hard wall plaster as in good demand, due to the impossible prices on tile. Many small home owners and builders are using this substitute, as it is said not to chip. Labor in the tile setting is $10 for eight hours and production is not over 60 per cent. of normal.

Lumber is again unsettled, although wholesalers who do the bulk of the buying for eastern building account report their inability to get acceptances at any easier rate or lower prices. The market has been firm and it was thought at the turn, but persistent reports, which seem to be verified in more or less degree, are that due to the congestion at the Gulf, the Middle Western grain will move to Europe through Puget Sound. In that event the lumber mills would have more cars than they could load for the return haul. The back orders of 7,200 carloads for Eastern building account would be quickly cleaned up and an irresponsible scramble for new business at cut prices would follow. Buying time for lumber does not look as opportune as a week ago.

Red cedar shingles are firm at $5 for clears at the mill, due directly to the car shortage.

Fir lumber orders now coming in are exclusively for country account in the East; city building, as reflected through the mills of the West Coast, showing quiet in that field.

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*(By Special Correspondence to The American Architect.)*

SAN FRANCISCO.—Notwithstanding the fact that the building situation here is being hampered by the car shortage and non-arrival of material, as well as by the contraction of credits in the banks, the architects are busy making plans for the future. The feeling is prevailing that while building may be slowed up until after the November election, the requirements in this territory are so heavy that this summer will see practically a normal amount of construction work done, and as soon as the election is out of the way a very decided increase in business will be manifested.

School construction will undoubtedly go on ahead of almost all other kinds of new buildings, and new bond elections in a number of districts are to be held during the next sixty days.

During the coming week a bond election will be held in the San Pablo Grammar School District, Contra Costa county, to vote on bonds to the amount of $35,000 for school buildings. The Vacaville Union High School District in Solano county, will also decide on the question of issuing bonds for $35,000 for a new gymnasium and manual training building.